THE PHENOMENA

OF

SPINAL IRRITATION.

Fig. 1

el et lith.

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THE PHENOMENA

OF

SPINAL IRRITATION

AND

Other Functional Diseases of the Nervous System,

EXPLAINED,

AND

A RATIONAL PLAN OF TREATMENT DEDUCED.

BY

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LONDON:
JOHN CHURCHILL, NEW BURLINGTON STREET.
MDCCCLVIII.

LONDON:
SAVILL AND EDWARDS, PRINTERS, CHANDOS STREET,
COVENT GARDEN.

TO

PROFESSOR GEORGE BUDD, M.D.,

A LECTURER WHO

PRE-EMINENTLY TEACHES STUDENTS TO THINK FOR THEMSELVES;

AND TO

DR. R. B. TODD,

WHOSE PERSISTENT KINDNESS TO HIS CLASS

WAS ONLY EQUALLED BY THE PROFOUNDNESS OF HIS KNOWLEDGE

AND THE STRENGTH OF HIS JUDGMENT,

THIS ESSAY

Is Respectfully Inscribed,

BY THEIR LATE PUPIL,

THE AUTHOR.

PREFACE.

The subject of Spinal Affections in general is one which, for many years, has been of surpassing interest both to the Medical Profession and the public.

At one period it was supposed that tenderness of any portion of the spinal column indicated incipient disease in the bones, in the cord, or its membranes; and thirty years have barely elapsed since these presumed spinal complaints were so common, that a young lady was considered fortunate if she escaped without an attack. The patient was commonly laid up in bed or on a sofa; leeches, or cupping-glasses, or blisters, or issues, or moxas, or setons were applied near the seat of pain; and the progress of the patient towards convalescence was measured by the effect of pressure used on the spine from time to time. In the progress of the case it was not uncommon to find new symptoms arise of the most alarming nature, and of the most wonderful class—frightful pain would alternate with, or accompany, terrific spasms; and as the tender spot

in the spine was still present, and as the effect of pressure upon it became more startling in its effects, it was a natural conclusion to draw, that the disease was becoming graver, more difficult to cure, and more inscrutable in its nature. By-and-bye, weary of unsuccessful efforts at home, the patient would go elsewhere to seek relief; and, throwing physic to the dogs, would try and regain the health which had been shattered by so many onslaughts of pain, spasm, bleeding, blistering, and the like. As the influence of change of air and scene was felt by the constitution, the symptoms began to give way; and as roses returned to the cheeks, misery left the back. A little tenderness on pressure might yet remain, but the electrical results that used to attend manipulation had ceased.

A great step was considered to have been made in our knowledge of spinal disorders when a distinction could readily be drawn between *organic* and *functional* diseases.

But with this era a new theory set in respecting the latter.

This was marked at first by the words "*spinal irritation*" being employed, instead of "*spinal disease*" or inflammation. By-and-bye, however, it was apparent that the symptoms of so-called spinal irritation occasionally presented themselves without spinal tenderness, and that there were other cases in which spinal tenderness existed

without any special symptoms. The next conclusion drawn was, that the symptoms were due to "hysteria"—the Medical Refuge for the Destitute—and that "spinal tenderness" was nothing more than one of the forms assumed by that Proteus. Having been educated in that belief, I was content with the theory for a number of years, although there were many points that seemed vague and uncertain.

But when I had to lecture upon hysteria, and explain it to others, I found that there were a number of refractory symptoms of which I could give no reasonable account. With the difficulty surrounding the subject of diseases of the nervous system, my interest in them increased, and they formed a special object of reading, thought, and clinical observation. During the winter of 1856, and when lecturing on the subject, some very remarkable cases, supposed to be hysterical, came under my notice, in which the sufferings of the patients had been violent, at times indescribably intense, and extending over a great number of years. The symptoms were both neuralgic and spasmodic, and the spine was tender. Not paying much attention to the latter, I closely investigated the former, and was enabled to convince myself that the severe pain complained of had a common origin with the spasms, and that the symptoms were all referrible to the muscular system. The idea once started was followed up with extreme interest; and

it was not long before I had furnished myself with convincing proofs that I had struck a mine of the greatest value, and case after case came before my notice in which symptoms once anomalous were now clear as daylight. Anxious to impart to my medical brethren the knowledge I had gained, I read a paper to the Liverpool Medical Society, entitled "Certain painful Muscular Affections simulating Inflammatory, Neuralgic, or Organic Disease." This was subsequently printed for private circulation. Some of the friends to whom I sent it remarked that symptoms similar to those I had described were to be found recorded in works on spinal irritation; and that, had I examined the patients with special reference to that, I should have found that spinal tenderness existed, and *in that* I ought to have recognised the explanation of the sufferings. Others "had calculated upon finding some notices of a class of distressing and often alarming diseases traceable to spinal disorders." In consequence of these friendly criticisms, I determined to re-peruse the volumes on spinal irritation to which I had been referred.

Aided by an experience in "muscular pains," already vastly extended by the kindness of my colleagues at the school, the hospital, and elsewhere, I was enabled to recognise in the so-called spinal disorders the same classes of symptoms with which I was already familiar.

I could readily recognise the cause of the ten-

derness; I could see in the aggravation of the symptoms the result of a false plan of treatment; I could deduce the broad principle of cure. But as the inventor of a new theory is very apt to seize points of resemblance too hastily, I was determined to keep the matter in abeyance until I could explain to my own satisfaction the connexion of spinal tenderness and spinal disorders with hysteria, could fairly lay down a principle of treatment equally applicable to all and consonant with the present state of our knowledge, and could also show, on the same principles, why the older plan of treatment was so often unfortunate.

Whether I have been successful in my efforts time will show. I can scarcely expect to convince those who have long looked upon the nervous system as the chief source of pain in hysteria and spinal affections, that the muscles and their tendinous prolongations or parts are far more frequently the cause of suffering than the nerves; for when once a definite opinion is formed by an adult upon any subject, it is against human nature to change it. A new theory requires a new generation before it is generally adopted. There are, however, in the ranks of the Profession, many distinguished exceptions to this rule—men who are habitually exercising their minds, examining every theory, whether new or old, adopting what is good and rejecting what is bad. Should the following pages come under the eyes of such, I shall be both

proud and happy to receive such criticism as they think fit to bestow.

An author working in a new field cannot see at once either all the flowers or the weeds that lie around him; he may readily mistake one for the other, and like the Australian miner, may fancy he has found a golden treasure when he has turned up a mass of iron pyrites alone. I am painfully conscious of this, and therefore look with eagerness for the opinions of others.

It is only right to make some apology to my readers for the title of the book. It was adopted simply because it was more likely to give an idea of the nature and bearing of its contents than if it had been designated what it really is, a "Treatise on Muscular Affections, and their Bearings upon Nervous Disorders."

I have adopted the order of time, that my readers might form their own opinions much in the same gradation and manner that I formed my own. The Essay on "Muscular Affections" was written in November, 1856, that on the "Nature of Spinal Irritation" in August, 1857; but I have not scrupled to add to the first such other observations and cases as have come under my notice since it was written, so as to make it as complete as possible.

Fig. 2.

W Bagg, del. et lith.

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EXPLANATION OF THE PLATES.

Fig. 1, Frontispiece,

Indicates the situations in which we most commonly meet with muscular pains.

The oval marks occupy the fibrous parts, or else the origins or insertions of muscles. Pain in these localities is often severe, but is not constantly aggravated by pressure.

The circular dots indicate the fleshy parts of muscles; they are occasionally the seats of "tumours," *i. e.*, more or less persistent cramp. At these parts it is that we have most commonly severe pain and extreme tenderness on pressure.

The mark on the shoulder is intended to represent the insertion of "trapezius" and the origin of the greater pectoral and deltoid.

The mark across the mammæ marks the origin of the lesser pectoral.

The long one at the side is intended to mark the extent to which we may have pain in the intercostal muscles.

That in the loins is due to over-exertion of the obliquus externus, internus, and transversalis.

The position of the infra-mammary pain corresponds with the lower origin of the pectoral, or with the commencement of the linea semilunaris. It is commonly connected with pain referred to the origins of serratus magnus and external oblique.

Fig. 2

Indicates the most frequent situations of pain in the back.

The whole length of the spine may be tender, but it was not considered necessary to mark it throughout. The most common

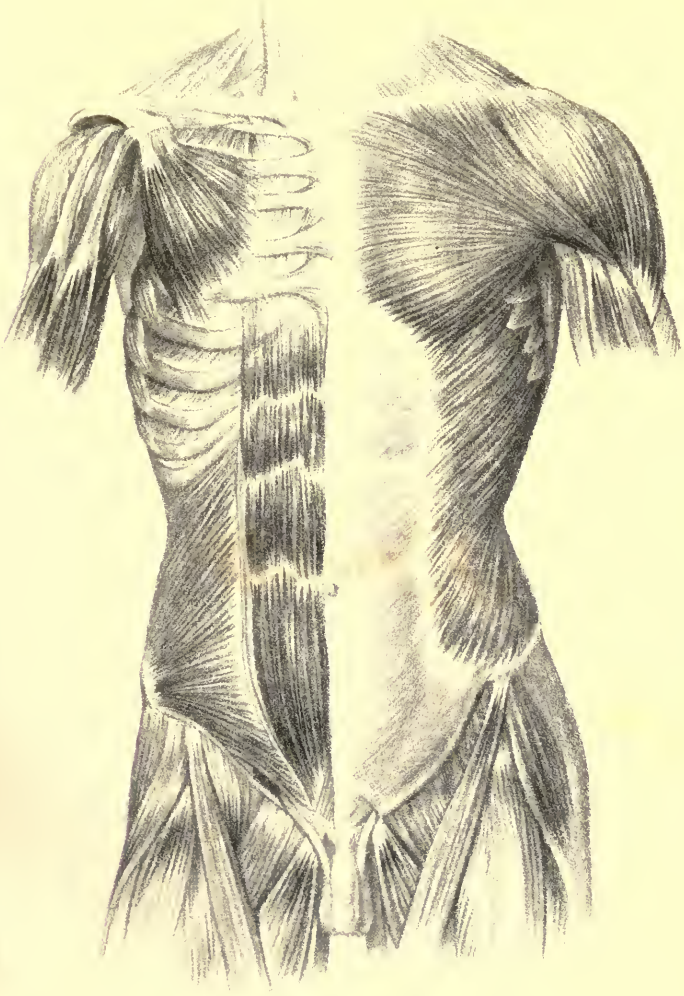
seats alone have been selected. As in the preceding figure, the oval lines correspond with fibrous structures, and the circular ones indicate the seat of spasm. Those in the middle of the loins indicate the fleshy part of longissimus dorsi.

FIGS. 3, 4, 5, 6

Are intended to show the origin and insertion of those muscles and fibrous parts which are the most common seats of pain. Figs. 4 and 5 are intended specially to show the number of muscles which are inserted into the spinous processes.

The Author has at present a young woman under his care at the Northern Hospital, Liverpool, with painful tender persistent cramp in the external and internal oblique, and probably the transversalis, produced by excessive exertion in washing with a "dolly." In company with a medical friend, he took the opportunity of referring in succession to all the points indicated in Figs. 1 and 2; and the patient was found to have, or to have had, pain referred to them all, with the sole exception of those marking the transverse lines of the rectus abdominis.

Fig 3



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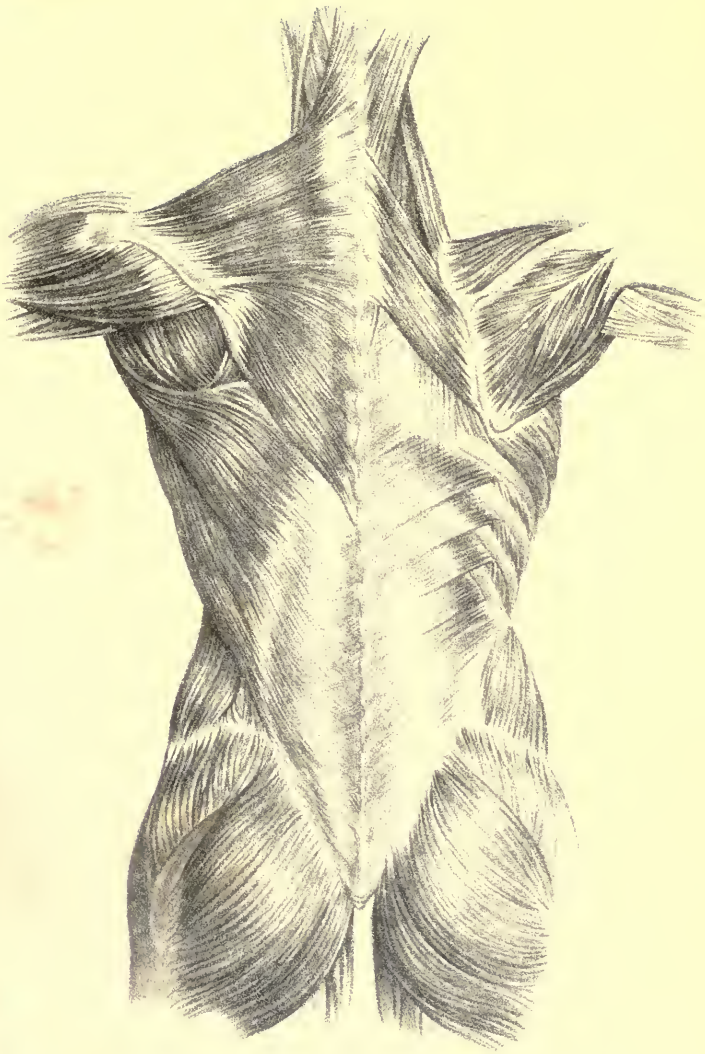

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Fig. 5

W Bagg, del. et del.

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Fig 5

W Bagg del et lith

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ETC.

Part the First.

CHAPTER I.

INTRODUCTION.

Introduction — Muscular affections well known in the healthy — Ignored in the delicate — Reason why — The word muscle defined — Reason why pain is so frequently referred to the fibrous portion — Case of Mrs. I., illustrative of the danger attending non-recognition of muscular pains — Familiar examples of muscular affections in healthy individuals — Various names given to degrees of stiffness, &c. — Their mode of invasion — Cramp — The circumstances under which it comes on.

HAVING had my notice directed, both frequently and forcibly, of late, to certain painful affections of the muscular* system, I venture to call the attention of the Profession to the subject. I am the more desirous to do this, as I have met with many cases where deplorable results have followed the non-recognition of the phenomena referred to, and as I am not aware that any medical writer has treated of them systematically.

The affections I allude to are particularly common—few persons, if indeed any, escaping them altogether.

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* It must be understood that, in using the word muscle, I consider it includes tendon, fibre, or fascia, as the case may be.

In the healthy individual they are spoken of under different names—cramp, spasm, stiffness, soreness, or aching. In the invalid they are always designated under the generic term of pain.

In the former, it is so common an occurrence to be stiff, or sore, after exertion, that the phenomena is never examined into,—the connexion between cause and effect is so clear, that as soon as the one is felt, inquiry is instituted into the other; and after a few years' experience, even the schoolboy knows how to estimate the duration of his stiffness, by comparing it with the muscular efforts he has made.

In the weakly and invalid, on the contrary, where there does not appear to be any unusual exertion made, the idea of soreness from muscular fatigue occupies no place; and even if it did, the difference of sensation arising from similar causes in a strong man and a delicate woman would be sufficient to make the majority of persons believe that they could have nothing in common. It is easy therefore to see how, though clear in the one, they may be obscure in the other.

The pain complained of is supposed to indicate neuralgia, inflammation, indigestion, or disease of some internal organ; and, in the endeavour to cure it, the practitioner too often treats it in a way to insure its continuance. There is scarcely any part of the body which is absolutely free from these affections, for they are to be met with

wherever there are voluntary muscles or their tendinous prolongations. Some parts are more frequently attacked than others. The trunk more commonly than the extremities. The abdominal walls oftener than the thoracic, and the legs more constantly than the arms.

On the whole, the tendinous parts are more frequently the seat of pain than the fleshy, but where the affection is of a spasmodic nature, the fleshy parts alone are implicated. The reason for this is to be sought by inquiry into the minute anatomy of muscle. We know that every muscular fibre terminates at each end in being attached to a tendinous fibre; that these, again, are, singly or collectively, inserted directly into the bones. Whenever a muscle contracts, there is a strain upon all parts of it, and a direct effort to tear it from the bone, or to separate itself into its integral parts. There are, therefore, *two* strains upon the tendinous fibre, at *each* end of the muscle; one where it joins the muscular fibre, the other where it is inserted into the bone. In addition, however, to this consideration, it must be borne in mind that (speaking generally) the muscular fibre is much longer than the tendinous one, and the strain which is divided over a long space in the former, is concentrated in a small space in the latter. In corroboration of this view we may add that, where the muscle has a long tendon attached to it, as the gastrocnemius for example, the pain

arising from over-stretching or over-exertion is confined almost exclusively to the origin and insertion of the tendon, as in tendo-Achillis, at the lower end of the calf of the leg and in the heel, the intermediate parts being free from pain. Any one who wishes to ascertain for himself the pain attendant upon the stretching of a fibrous structure, should stand with his feet close together, and then, without bending the knee, try and stoop forwards until he can touch the ground with the tips of the fingers. When first this is tried successfully, the pain in the popliteal region is excessive; by practice the feat can be performed with scarcely any suffering.

If farther illustration were wanting, I would point to the excessive pain complained of by the parturient female, from the terrible strain upon the sacro-sciatic ligaments, and the relief given by counteracting the pressure in front, by pressure of a firm hand to the back of the sacrum; and I may add, that the common reason alleged for the pain of the lower animals during parturition being less than in our own species is, that in the former there is a relaxation of the ligaments tying the pelvis together, while in the latter this provision is absent.

As an illustration of the importance of a due recognition of muscular pains, I give the following case—the first that I met with—and one which naturally laid the foundation for more extensive inquiries:—

A very near and dear relative, a lady, æt. forty-four, or thereabouts, had been confined to bed a long time for what was said to be congestion or inflammation of the liver. For this she was cupped and leeched, blistered, purged, and starved on low diet; and, as she was able to leave her bed at the end of two months, it is charitable to conclude that the diagnosis was correct, and the treatment unimpeachable. Unfortunately new troubles arose. The first day she sat up, she began to suffer pain between the shoulders, and in the head. These being mentioned to the doctor, were pronounced to be proofs of a relapse; "bile was at the bottom of them," and it would be necessary again to bleed, blister, give blue pill, and to confine the patient to bed. The treatment seemed triumphantly successful, for the pain did not return during the week, and the patient, consequently, once more ventured to sit up. But, alas! the symptoms returned with increased severity, and she was once more condemned to bed, bleeding, blistering, and blue pill. The pain once more was cured, and the patient was allowed to get up again. The attempt was more disastrous than before. The suffering returned with renewed violence, and her friends now despaired of her recovery. The husband, however, seeing that his wife only rose to be knocked down again, and had less and less strength at each attack, determined to try change of air, and to see what nature, un-

aided, could perform. Though *he* was satisfied, she was not, and confided all her troubles to the ear of her relative, who was then in his "second medical year." The terrible pain in the head, and between the shoulders, was the most complained of; she could not read in consequence of strabismus; vision was double from the same cause; and it did not require any information to show that the patient was in a deplorable state of debility. On being requested to point to the chief seat of suffering, the aponeurosis of the trapezius, and the occipital insertion of the same muscle, were mapped out. It was soon ascertained that the pain came on only after the patient had been sitting up, *with the head unsupported*—that it went away as soon as she lay down, or rested her head on her hand.

In consequence of its continuance, she could not be induced to give up the use of aperients and low diet, and these, combined with a very natural depression of spirits, almost brought her to the grave. I succeeded, however, at last, in inducing her to believe that the pain was entirely muscular, and had nothing whatever to do with the liver. I prescribed the almost habitual use of a high-backed arm-chair; frequent rest in the recumbent posture; an abstinence from everything but kitchen physic; a generous diet; a liberal use of wine, porter, or ale; and had the satisfaction of seeing the patient mend at a rapid rate. She had been, however,

reduced to such a pitch of weakness, that many months elapsed ere she was able to support the weight of her head without pain.

Since then, I have had abundant opportunities to learn that this pain in the trapezius muscle is an almost constant concomitant on convalescence, unless care is taken to provide the patient with a comfortable arm-chair, on which he can rest the head and arms. *The weight of the shoulders being almost equally onerous with that of the head.*

Returning from this digression, let us consider the phenomena presented in a healthy individual exposed to unusual and excessive muscular exertion. We are familiar with the expression, "laughing till our sides ache;" and I need not remind you of the soreness, pain, or abdominal tenderness that follow on the next day after a night spent with Buckstone, or any other irresistibly comic actor; yet I have often found the cause ignored, and the individual unable to see the connexion between the two whenever the soreness has occurred in an unusual place. Everybody is familiar with the stiffness that follows a first fencing, dancing, or broadsword lesson. The schoolboy remembers his first ride, the athlete his first day's training. The seaman remembers how his eyes have "burned" after many an hour's weary lookout for land, especially at night. The seamstress, too, often stitches till her eyes *ache* with watching her needle—*i. e.*, until the muscles that move the ball are thoroughly

weary. The traveller remembers the weariness he experienced at the termination of a long journey in a jolting carriage; and the enthusiastic card-player may be able to recal the burning ache he has felt at the pubic insertion of the rectus abdominis as the morning approaches.

Those who have visited mountainous districts for the first time, and ascended some conspicuous height, in which, of course, they have made extraordinary use of the abdominal muscles, will recal the soreness they feel in the same muscles in the descent. When going up the hill, they were contracting them; in coming down, their attitude necessarily stretches them; and the two effects combined leave a painful ache for at least two days.

To take familiar examples from the other sex, let me remind you of the back-ache complained of by the pregnant woman, who has to keep erect all day with an extra burden to support; of the severe pain known by many ladies as a "cutting-out pain," because it is produced by the unusual strain thrown upon the erector muscles of the back, while they are leaning over a table to cut out patterns.

Every midwife is familiar with the excessive soreness complained of after delivery, and which arises from the immense muscular exertion required to propel the child into the world; yet few, when a similar pain is complained of by the virgin, see any relation between one and the other.

Speaking from personal knowledge, I would say,

that if any one is desirous of knowing to what a pitch of severity this muscular ache will reach—if he wishes to know what is meant by the expression, a "burning pain between the shoulders," let him sit for fourteen hours consecutively, working with the microscope, making specimens, taking notes, raising and lowering the head continually, and he will then find that not even a new beauty, of intense interest, can keep him from his arm-chair, the sofa, or some other contrivance for supporting the head.

If we analyse particularly the phenomena to which I have alluded, we find that there are varieties or degrees of the aching pain. 1. That which we feel *after* unusual exertion, though the muscle is in a state of repose. 2. That which we experience, under the same circumstances, when the muscle is in a state of activity—every one knows, for example, how much pleasanter it is to get over the stiffness produced by a long day's walk, on a sofa, rather than by a second day's exertion.

These sensations are of greater or less duration, according to circumstances, but are always most severe on the day following the unusual effort; and we may remark, in passing, that they rarely, if ever, come on until after a period of complete repose and sleep. 3. They differ from the burning ache, which is produced by long-continued action in any muscle, and which goes off as soon as the muscle returns to a quiescent state. 4. As a

general rule, when the sensation is referred to a tendinous part, it is spoken of as pain—when to a fleshy part, as an ache.

If we examine into the circumstances under which these sensations are produced, we shall be able, in all cases, to trace them to severe and unusual exercise of a muscle or set of muscles. The well-tried pedestrian can laugh at the stiffness the sedentary student experiences when he suddenly throws off his quiet habits for more active work. The mason and the blacksmith work with ease for a period quite impossible to the uninitiated. But, set the first upon horseback, and the last to do duty as hod-carriers, and they all will experience some stiffness next day.*

The muscles are severely exercised during the occurrence of cramp in them, and soreness follows this as surely as after a more prolonged but gentler use.

As a general rule, the more perfect the develop-

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* The habit of muscular exertion does not always give immunity from ill effects in man any more than it does in women. We shall speak elsewhere of the assistance given by a corset or elastic belt to the abdominal and other muscles of the trunk in women. We wish here to call attention to the frequency with which workmen employ artificial supports to assist those muscles or fasciæ that are violently strained in their occupation. Navvies, who have to wheel heavy barrow-loads of earth, place a strap round their wrists to assist the annular ligament. Washerwomen who have much wringing of clothes adapt a piece of ribbon to the same place and the same purpose. Labourers who have much standing-work employ a belt; and the pedestrian uses a strap or handkerchief round his waist to prevent stitch (or cramp). The swimmer will use a tight garter round his calf, with the same intention.

ment of the muscular system, the less is the amount of stiffness following exertion; and *the feebler the individual, the greater the pain.* Thus, the hardy countryman can go through an amount of labour with comparative ease, which would lay up his town cousin for a week. The records of the guides to Mont Blanc, or any other mountain, infallibly show a similar result. Of five gentlemen who go up, apparently under similar circumstances of previous training, &c., one will be unaffected, while the others will have various degrees of stiffness during one or more days. The question, "upon what does this condition of soreness and stiffness depend?" is one of tempting interest; but, as I have not yet anything beyond conjecture and analogy to offer, I must omit it for a time, and consider another phenomenon arising from excessive muscular exertion, to which we have already alluded, viz. cramp.

Cramp is an intense spasm or contraction of a muscle. It comes on suddenly, and is attended, as in all muscular contraction, with apparent swelling and great hardness. It is usually accompanied with severe pain, is of variable duration, and passes off slowly, with a vibrating, twitching, or creeping sensation. During its continuance, the same action is produced that would be by a voluntary use of the muscle, but the sufferer has no power to suspend or modify its condition directly.

Experience shows that a forcible extension is more efficacious than anything else in relaxing the spasm. Shampooing is next in value.

When a muscle has been once seized with cramp, it is very liable to other similar attacks.

Experience still farther teaches—and the lesson is of great importance—that cramp rarely, if ever, comes on in a muscle until it has been in some way debilitated. That condition may have been produced by unusual, excessive, or too long sustained exertion, or by long inaction, or the whole system may have been "pulled down" by loss of blood, or food, or rest, by diarrhœa, or other causes of weakness. Thus, for example, after walking for a whole day, we are attacked with cramp just as we point the toe to take off our boots. And when it attacks the bather, it is not until he has been swimming for a long time, and is, too often, far from land. It is to be remarked, too, that the victims of cramp are commonly persons whose frames are not inured to the immense and continued exertion put forward in swimming. It is more common in the townsman who visits the sea or river side, and indulges in a bath after long inaction, than in the countryman who has a daily swim, and whose muscles are more developed and more accustomed to fatigue.

I shall have, in the ensuing pages, many opportunities to show that constitutional debility predisposes to the occurrence of "cramp."

I am, of course, aware that cramp may be produced by what, for want of a better term, we must call nervous irritation, as in tetanus, &c.; but I hope, hereafter, to show that, even in these cases, the condition of the muscles, as regards vital power or vigour, has a great deal to do with the phenomenon.

I purposely, too, omit all those cases in which cramp is produced by some peculiar condition of the blood—as in cholera, scurvy, and other diseases.

CHAPTER II.

"Unusnal exertion" defined and explained — Ordinary exertion in the strong is extraordinary in the weak — Examples — Habitual practice does not necessarily give strength — Case of Mrs. T. — Its long duration — Diagnosis of muscular pains — Cases illustrative of the various points of diagnosis.

It cannot fail to be remarked, the great stress we have laid upon the fact, that the soreness, &c., depends upon a severe, excessive, or unusual exertion of the affected muscles.

It is now necessary that we call particular attention to what we mean by excessive or unusual exertion, and how it bears upon our subject.

As long as a man is in a healthy condition, and is not subjected to extraordinary exercise, he is almost unconscious that he has any muscles at all. Each one performs its duty quietly and silently (so to speak). The muscles are equal to the work they have to do—the work is constant—the head and the shoulders are always of the same weight, or nearly so—the abdomen contains an almost unvarying amount, and the trunk does not change its relative weight to the limbs. As long as the relation *between the work to be done and the power to do it* remains the same, the exertion of the muscles is not *unusual. But whenever muscles reduced in*

power are obliged to do the same work as when they were strong, the exertion they put forth is unusual, and the violence of the exertion is proportionate to the weakness of the muscles.

It must at once be apparent, that what is an ordinary exercise for the muscles of a healthy man, would be extraordinary to the same man when just recovering from typhus, or any other debilitating disease. In the first case, the heart can propel the blood to the brain in an erect posture, without any difficulty; in the second, the exertion may prove beyond its strength, and the erect posture will produce fatal syncope.

So again, we can in health support the head, during the day, without fatigue; but, when debilitated in any way, we can no longer do so, for the head remains the same, while the muscular fibre is reduced in power. This is familiar to us all by the manner in which a "heavy head" and "heavy eyelids" are used as symbolical of fatigue—*i. e.*, the head feels heavy, not because it has increased in weight, but because the power to support it is diminished. The country people have a proverb, "that if you carry a lamb all day it becomes a sheep by night," which they explain in the same way.

It costs us no suffering, while we are in good health, to walk erect, or to sit over our books and papers; but when illness has reduced our powers, when a refractory stomach has refused the neces-

sary supplies of food, or when we have been brought low by accidents and loss of blood, we find the exertion excessive, painful, or too great for our powers. As long as the school-girl is healthy and strong, she can sit erect for hours, and at the end feel *weary* only; but as the influence of sedentary life, mental exertion, deficient appetite and digestion, a crowded sleeping apartment and school, begins to be felt, the weariness is changed to *painfulness;* she is no longer *fatigued*, she is suffering. We shall give many instances of this truth hereafter. We wish now to show, that even though the habit of erect sitting may be continued for a number of years with impunity, the exertion may become too great at last. The following case, which suggested the writing of this essay, illustrates this point forcibly:—

Mrs. T., aged about fifty-four, came under my care, suffering from bronchitis and asthma. She had been under medical treatment thirteen years, and informed me that she had, in addition to her other ailments, enlargement of the liver, and a tumour in the uterus. Her severest sufferings, however, arose from intense pain between the shoulders, and in the occipital region of the head; it was, she said, for all the world as if somebody was burning her with a hot iron. She had, too, pain in the loins and small of the back; and, she added, suiting the action to the word, there was a continual grasping pain all over the abdomen, as if

somebody was always drawing her up, and so severe was this when she walked, that she was often obliged to lay hold of the palisades in the street, to draw herself up by, and relieve the pain. Bed alone gave her a degree of ease, but her troubles pursued her there, for, at every turn, the abdominal walls were drawn up into lumps on one side or the other. A severe nettle-rash, for the last two years, added to her suffering. Life was a burden to her; during the day her wish was, "would to God it were evening," and then, "would to God it were morning." She had a fixed idea that her case was hopeless, and that she would die ere the year was out, and she was nothing loth.

It was not until my third visit that I obtained all these particulars, from the disinclination she felt to talk of them, and some further time elapsed ere she spoke to me of the treatment that had been adopted. She told me that she had been blistered on almost every part of the back and head; had had leeches to the nape, between the shoulders; that the abdomen had been covered with them, in different batches. She had, she said, had blisters by dozens, and leeches by hundreds; and that she had been kept low in consequence of the presumed disease of the liver. In fine, all the usual counter-irritants had been used, in abundant succession, whenever the pain became more than ordinarily severe, or was more than usually complained of.

On one occasion the uterus had been considered the seat of the mischief, and she had been examined with the speculum; and on some abnormal appearance being found around the os, it was thought her sufferings were due to uterine sympathy, and a gloomy prognosis was given. After two or three visits, however, I had seen sufficient of her habits to account for the majority of her symptoms. Originally, a healthy woman from the country, she had married a gentleman who had a profound contempt for any lady who indulged in luxurious habits. She had ever after acted as affection dictated, and sat erect, without using any artificial support. As long as she was strong, the exertion brought no suffering; but when menorrhagia, diarrhœa, and the like had pulled her down, the muscles refused to do their work without pain. The bronchitis kept up debility; wine and other stimuli were not adequate to give the necessary strength, and she neither had the inclination, nor had she even been directed, to give her muscles less work to do. The pulse was feeble, respiration gasping, there was frequent and distressing cough, and an occasional expectoration of tenacious mucus; the appetite was poor, digestion bad, flatulence occurred nightly, and the bowels were torpid. There were the usual physical signs of bronchitis over the lower halves of both lungs, but percussion showed that the liver was natural in size, and it seemed possible that the supposed enlargement had

been nothing more than a cramped state of the external oblique, on the right side.*

I ventured to assure her that all her pains were muscular, that they were to be cured by indulging in a greater amount of repose, and by a still further development of the strengthening plan of treatment.

A sofa, and comfortable arm-chair, were to be frequently used during the day—tea was to be eschewed—steel took the place of some of the wine—a mild expectorant relieved the cough; colchicum diminished the urticaria, and cod-liver oil gave strength rapidly, and at the end of a month,

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* The subject of tumours from muscular over-exertion is one of great interest. I have attributed the one here to simple cramp in the fleshy fibres, and there is no doubt this is a frequent cause; but it will be seen (Part II. p. 150) that the characters assumed are different to those we should anticipate in cramp. On mentioning this subject to a non-medical friend who has been all over the world, mingled with all sorts of people, and who was for many months a miner at the Australian diggings, he assured me that he had very frequently seen large and painful swellings—white and shining as if they were going to form abscesses—situated over the radial insertion of the pronator quadratus. The swelling followed severe twisting or wringing motions, and went away entirely after rest. He had heard it attributed by surgeons on the spot to effusion under the periosteum. The use of a strap round the wrist used to prevent its recurrence. It is tolerably clear in this case that the swelling could not have been from cramp in the fleshy fibres of a muscle, for none exist at the point indicated. The appearance of *whiteness* negatives the idea of the swellings being purely, if at all, inflammatory. Their tenderness and painfulness would lead to the belief that there was great stretching of some fibrous structure. I have not any personal experience on the subject, but I would suggest the possibility that, in these cases, the periosteum has in reality been torn from the bone, and an effusion of serum and blood poured out between the two, which is readily absorbed under favourable circumstances.

the lady was once more able to enjoy life, and enter into its pleasures. A party of attached relatives, who had come to condole with her, remained to congratulate. The pains, and aches, and spasms had all gone; the cough was all but well; and she, who had previously risen at eleven and retired at eight, now rose at eight o'clock and retired at eleven. She has since had attacks of bronchitis, but the cramps in the abdominal walls have never returned.

It will naturally be expected that I should say something about the diagnosis of muscular (and fibrous) pains.

1. They are almost always described as hot or burning.

2. They are absent in the morning on getting up, and go on increasing in severity till bed-time, when they cease. If they follow excessive exertion, they come on first thing in the morning, and subside gradually.

3. The pain is referred to some muscle, or to some part where it is fibrous, and is aggravated by bringing it into increased action. At first, and as a general rule, the pain is relieved by the steady pressure of the hand, but after it has continued for some time, the parts become *tender to the touch*, and pressure cannot be borne. A similar result follows, if the exertion of the muscles has been absolutely as well as relatively excessive. There is great variety in this symptom, according to the condition of the patient, and whether the pain is

the result of a strain upon the fibrous, or cramp in the fleshy part of the muscle. As far as my experience goes, it appears that in nineteen cases out of twenty, the patient tries to relieve and sometimes even to describe the pain to another person by pressure upon its ordinary seat.*

4. It can be traced to unusual exertion in a strong person, or to a weak muscle having to do the work of a strong one.

I do not know any point in the diagnosis that requires a more ready power of appreciation than this. Unless the mind is imbued with the possi-

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* My friend who furnished matter for the last note made some valuable observations on this point. He said it was very common to find many persons in an Australian journey suffer intensely from muscular pains. "We scarcely ever thought of calling anything a journey," he remarked, "unless it lasted at least a week or ten days. They were made in drays, carts, or waggons, with the men, mostly on foot, carrying their guns, revolvers, or other light things. The tracks were so heavy, that he could only compare the fatigue to that experienced in walking over a newly-ploughed field after rain, or over deep dry sand. The travellers planted their feet apart, and walked with a rolling gait. The first day all went well: people were tired, and that was all. Next day, those not inured to fatigue had frequent stitches in the side, and could not make a long day's walk. At night they could not sleep on the side, only on the back; and ideas of liver disease and pleurisy were discussed at the camp fire. The next day the pain in the side terribly augmented, and the day's work was shortened accordingly. By this time, *the whole sides were so tender that all sorts of plans were resorted to to keep off the shirt from touching the skin* (of course, had this been met with in a woman, it would at once have been called hysterical by the doctor). Those who had previously led a sedentary life were the greatest sufferers. Many threw away all the goods they had to carry. Two or three days' rest, without other appliances, completely cured them."

In Part II. will be given the case of a housemaid who had similar cutaneous tenderness from over-exertion.

bility of such and such an occurrence being "too much" for the abdominal walls—unless it is prepared to believe that a walk of a few yards would overpower them — that sitting or standing may produce epigastric or pubic pain—the real cause of the complaint will not be discovered. Many of the cases I shall hereafter detail will illustrate this point. I append three here, which are the more interesting as two occurred in physicians, one of whom was in full possession of my views on the subject; the last of the three occurred in a personal friend of Mrs. T., and in the practice of a medical man with whom I had had many a discussion on muscular pains:—

G. O. F., a young medical man, æt. twenty-six, tall and healthy-looking, though with a contracted chest, came to consult me at the North Hospital, Liverpool, respecting a severe and harassing pain two or three inches on the right side of the lower end of the sternum. I learned that two years ago he had had measles, which left him weakly: he had then what he assured me was pleuro-pneumonia, for which he had taken a great deal of mercury; he had continued very weak for some time, but in other respects had recovered perfectly; he remained well until six months ago, when he had an attack of influenza, which was attended with some cough and expectoration; since then he has been getting thinner, and has suffered much from pain in the side. To regain his strength he had been

travelling, being always on the move for the last two months. His daily average of travelling was about eight hours, and his longest rest two or three days,—but that was only when he felt knocked up. He had latterly been pedestrianizing in Scotland. His diet was bread and milk: stimulants he fancied made his side worse. His family connexions were all healthy. His pulse was eighty-four (standing), his breathing easy, and his complexion healthy. A careful examination of his chest failed to detect any abnormal phenomenon. A farther investigation elicited that the pain was worst after a day's fatigue—that it was relieved by pressure (although the part seemed very tender when percussion was made over it)—by pressing with a firm hand over the place a deeper breath could be taken than without: the stitch-like pain only came on when the intercostal muscles were strongly contracted, and it went off just in the same way as cramp elsewhere does. I farther ascertained that while pedestrianizing he had made very free use of a walking-stick, which he was often obliged to transfer from the right-hand to the left on account of the fatigue of the shoulder it produced. He was always better on Sunday and on Monday morning. I ventured to assure him that the pain was purely muscular, and required little more than generous living, tonics, and rest, with the addition of some local anodyne liniment.

Another case of a precisely similar description

occurred in a distinguished physician who had been threatened with phthisis. The pain in this case was referred to the same part as in the preceding one, but it was supposed to be more formidable, as it was accompanied by a considerable amount of expectoration, and perspiration at night. The pulse, however, was only 80. The skin was cool. The nature of the pain was similar to that in the last case. There was no physical sign of pleurisy, but the patient had been for some days living very abstemiously, and had been occupied for many hours daily in overlooking and arranging papers, &c., in which he had, of course, to employ his right arm principally. A few glasses of wine extra, and some steel, with more rest, set him right again in a day or two. Here, as in so many other instances, there was no suspicion that the pain might be muscular, because it was supposed that there had not been unusual exertion. The exertion had in reality been unusual only because the muscles had been, when weak, called upon to do the same duty as when they were strong.*

* A day or two after this case was seen, I was called in to see a gentleman who had a cavity under the left clavicle, and was exceedingly anxious about the right side, as he had had severe pain in it, which I could not refer to any one spot. There was no physical sign of pleurisy or disease of the lung, and no tenderness on pressure. He had had it only after a long railway journey—but it "caught his breath." "I think, however," added his ordinary attendant, "that it is only a muscular pain, for if he draws in his breath slowly through the nostrils, he does not have the stitch; but if he opens his mouth and takes in a full breath rapidly, he is at once drawn on one side, with *his hand on the seat of pain*." This medical case is well worth remembering.

The following case illustrates the severity of the suffering, and the uselessness of antispasmodics to relieve it:—

Mr. B., æt. forty, of sedentary habits, very thin and pale, and of small build, consulted me for a distressing spasmodic affection. The history was this. About five weeks ago he had a serious attack of hæmoptysis, which reduced him considerably. He took for it some turpentine, which checked the bleeding, but its administration was followed by intense pain in the right hypochondrium, vomiting, and constipation. These symptoms were relieved by copious enemata, and he then began to suffer from spasms, referred to both sides. He had been suffering latterly from irritable cough, and had not been able to lie down for three weeks, the attempt producing violent cough and spasmodic action of all the muscles of respiration; and during the whole of that time he had not had an hour's continuous sleep. His ordinary attitude was sitting in the erect posture, or stooping forwards. On examination, I found faint crepitation under the left clavicle, and absence of any respiration over the lower lobe of the right lung. The pulse was feeble, the voice weak, the appetite gone, and the bowels, as was to be expected, sluggish and constipated. As there were no signs of inflammation present—as there were all the requisites to produce muscular pain and spasm, *i. e.*, a debilitated frame and unusual exer-

tion of the muscles, in keeping the body constantly erect, and in the action of coughing frequently—and as the spasmodic nature of the affection was well marked, the diagnosis appeared easy, and the indications of treatment plain,—morphia was given in quarter-grain doses, to reduce the irritability of the chest and of the muscles, and a liniment, composed of laudanum and camphorated oil, was used freely over both sides, from the arms to the pelvis. The treatment was eminently successful. He slept four hours the first night without awaking. The next night he was able to go to bed. The cough ceased, the spasms left the intercostals, and were confined now to the external oblique, &c., and were reduced greatly in intensity. In ten days he slept in bed for the whole night without awaking, had a return of appetite, and increased strength, and was declared convalescent, and able to go into the country for the benefit of change of air. The phthisical symptoms, however, shortly returned, and he succumbed under them. It is worth noting in this case that ether, chloroform, and assafœtida had been freely tried before the morphia was used, but they had not given relief after the second day's use.

5. The pain is relieved by relaxation, or artificial support. The assistance which this observation gives to the diagnosis is immense, though, as may readily be understood, it is not always available. The following case was one of great uncertainty, until it was cleared up by attention to this sign.

J. G. O., æt. forty-eight, a gentleman of stout, tall frame, strong looking, and of great energy, complained of severe and sometimes intense pain, referred to a small spot corresponding with the tendinous portion of the rhomboideus major on the left side. This was at times so agonizing as to preclude any attention to business. He then went to bed, and almost immediately "felt himself in heaven"—the relief was complete. He was the editor of a newspaper, and worked indefatigably with his pen; had suffered from this symptom for many years; had had it referred by one medical adviser to the liver, by another to the gall-bladder, by another to indigestion, &c. A close examination could detect nothing wrong in the chest, in the region of the liver, &c. The pain was described as frequently changing its seat, now being on the right side, now on the left, but always confined to a space between the spine and scapulæ. He had pain sometimes, though rarely, in the spine and occiput: there was no tenderness on pressure. Blisters, opiates, &c., gave no permanent relief. I considered it to be muscular in its nature, arising from the contraction of the rhomboids, a thing of which every one must be painfully conscious who writes for a long period without resting; but the case was by no means clear. I was called in a second time, and made still fuller inquiries than before. The only new fact I could elicit was that there was loss of appetite and great abstinence from stimulants, and that

the time occupied in writing was at least twelve hours a day. The pain had shifted once or twice since my first visit, from the left to the right side, and back again, and once again to the right; and he had tried change of air, without any advantage. I found him writing in bed, lying on his side—the only position, he said, in which he could now do so comfortably. Being a man of great intelligence, he was asked to put himself into the attitude which gave him the most relief. He immediately threw his head and arms back as far as he could, and said, "There, that position gives me instant relief." It was thus clear that his sufferings arose from too great and constant a strain upon the trapezius and rhomboid muscles; but when the cause was detected, we were still a long way from the cure. The patient could not give a sufficient amount of rest to the muscles without injuring his business; and we were obliged to content ourselves with recommending such means as we could suggest for relieving the habitual strain on the muscles, and improving the general tone of the system.

6. However severe the pain, the pulse is unaffected, although it may be softer and weaker than natural. This is a point of no small assistance in our diagnosis, especially in some of those cases where the pain is so severe and persistent as to lead to a doubt respecting the presence of inflammation, as the following case will show:—

Mr. M., æt. 28, a student in medicine, and in

business as a druggist, of strong frame, and of perfectly correct and temperate habits, sent for me one day, under the impression that he was suffering from peritonitis, affecting the cæcum and the ascending colon principally. The following was the history he gave:—A few weeks preceding my visit he had had sore-throat, which ended in quinsy; for this he took aperient medicine, and lived very abstemiously. As soon as he was able, he went, as usual, to attend lecture, walking about two miles and a half; and this, in addition to a good deal of standing, necessitated by his business, was too much for him in the impoverished condition of his system. At night he was seized suddenly with pain in the right iliac region and in the loins. He now put himself under the care of a surgeon, who treated him as for inflammation, with mercury to salivation, low diet, &c. He was confined to bed, but was after a short time able to go about. He then went again to lecture, in a car. He was only able to stand it for three days, and was then as bad as at first, and in very low spirits. Without farther advice, he applied a blister to the seat of pain, took more mercury, purged himself dutifully, and continued on low diet. I found him pale, with anxious features, perspiring freely, with a clean tongue, and a pulse sixty-four when lying down, seventy-four when sitting up. The seat of pain was the junction of the right obliquus externus, with its aponeurosis. There was some pain on the left

side, but not much. The pain had always been relieved by lying down, but it came on as bad as ever after he had been sitting up, or going about for a few hours. He felt so weak, "that if he had had any cough he would have fancied he was going into decline." His appetite was good, but he dared not to indulge it. Whenever he had taken a good meal, "he always fancied he was better for it." I easily persuaded him that his pain was entirely due to over-exertion of the abdominal muscles while he was in a weakly condition. Steel, cod-oil, moderate exercise in the open air, and as full a diet as his digestion would bear, were recommended. The freedom from his fear of peritonitis acted at once as a stimulant, and ere my visit was over there was a change for the better in his features, and in a week he was perfectly restored.

7. The patient, in describing the seat of pain, almost invariably, though of course unconsciously, moves the hand in the course of the fibres of the affected muscles. It was this that, in the case of Mrs. T., afforded me the clue to the cause of her suffering. In giving me an account of the way the pains ran, her hand mapped out, as clearly as if she had been an anatomist, the ascending, descending, and horizontal fibres of the trapezius, the perpendicular fibres of the quadratus lumborum and rectus abdominis, the oblique course of the external oblique, and the horizontal course of the transversalis. With the idea of spinal disorder before his

judgment, the practitioner would seek to find in the nerves supplying these parts the true cause of the peculiar sensations, and would be puzzled how to account for them on any adequate hypothesis, but on a muscular hypothesis they are as plain as possible.

Where the pain is a fixed one, it almost invariably occupies a spot which is more or less tendinous, and this should at once enable us to distinguish it from neuralgia. There is, however, one exception to this point of diagnosis, to which I shall hereafter refer. A woman cannot be expected to point to the pubic insertion of the rectus—she always points to the hypogastric region instead—but, as far as my experience goes, the practitioner will have no difficulty in gaining the information he requires by indicating on his own person the precise seat of pain. I find, too, that many women suffer pain at the origin of the lesser pectoral, which they do not tell of, lest it should necessitate an examination of the mammæ.

8. The pain of cramp often comes on suddenly during the night, while the patient is moving.

This point is one of great physiological interest, as well as of pathological importance. It is curious that a muscle which has been thoroughly fatigued should not become cramped until it had been rested to a greater or less extent by sleep.

The explanation of this is not perfectly satisfactory; but we may refer to the fact that cramp is

often produced during sleep from some cerebral cause, that there is generally a faint general convulsion as soon as sleep comes on (as many persons nodding in church discover to their annoyance), and, as we have before noticed, stiffness rarely comes on after great exertion until sleep has intervened.

But, whatever the explanation, it is, as far as my experience extends, an undeniable fact, that in a weakly person cramp will come on in a fatigued muscle during sleep; and that the pain attending it will be more excessive, and its duration—generally intermitting for a few minutes at a time—will be more considerable than if it had come on by day.

I have known a lady affected in this manner after a comparatively short railway journey, and be almost on the scream from three o'clock one morning to the ensuing midnight, and that in spite of large doses of morphia. A similar instance where the lady had been only riding about four miles in a car will be given by and bye.

CHAPTER III.

The parts of the body most commonly affected — The occipital region — Extension of pain along the occipito-frontalis — The sterno-mastoid and temporal sometimes affected — Pain in sterno-clavicular insertion of trapezius — Case of Miss I. — Pain in interscapular aponeurosis, and attachment of ligamentum nuchæ — Longissimus dorsi affected — Cases of Nurse and Mrs. W. I. — Causes sometimes difficult of detection — Case of Mrs. L. — Advantage of stays in giving artificial support — Quadratus lumborum affected with others — Gives rise to suspicion of disease of liver — Case of Mrs. N. — Glutei muscles and erectores spinæ affected — Case of Mrs. B. — Mr. ..... — Pectorals and intercostals affected — Stitch in side — Its cause — Pleurodynia — Diagnosis from pleurisy — Case of Mr. R. — Diaphragm affected — The symptoms — Abdominal walls — Pain under mamma, right or left, accounted for — Epigastric pain — Its cause — Case of I. W. — Danger of mistaking these pains for inflammation, &c. — Pain in side of abdomen during pregnancy — Its cause assigned — Case — Question whether the fibrous tissue is not more "stretchable" in the weak than in the strong — Points bearing on the inquiry — Varicose veins — Pain in the pubic region — Referred in women to the hypogastric — Its cause — Illustrative cases — Mental depression common in these affections — The reason why — Pains produced in muscular system from excessive vomiting — Case of Mrs. L. — Distinction between neuralgic, hysterical, and muscular (or fibrous) pains — Cramp in the abdominal walls — Case of Ann B. — Case of pubic pain, Sarah M'G. — Painful affection of abdominal walls — Case of Miss M. — Muscular pains in the extremities — Case of Miss L. C.

We have said that every part of the body is liable to muscular pains. We will select now those that are the most common seats; premising that we shall notice them in the order of convenience, rather than of their frequency.

As we have already given some illustrations of the pain referred to the interscapular aponeurosis, we may pass on to other parts of the same muscle. The first case recorded will serve to show that the occipital attachment is often the seat of pain: I would invite particular attention to this, for instances are perpetually occurring where, during convalescence, or under other circumstances, the patient complains of severe *headache*, and the practitioner is misled, especially if his mind is preoccupied with some particular idea; the danger is the greater inasmuch as the pain, which commences in the occipital region, sometimes seems to be prolonged into the "occipito-frontalis." The pain is sometimes referred to the insertion of the sterno-mastoid, and the origin of the temporal. Mistakes may readily be avoided by requesting the patient to put her fingers on the seat of pain.

Pain is also referred to the claviculo-scapular insertion of the trapezius, and it is exceedingly probable that this occurs to a far greater extent than we have hitherto supposed. How many must have noticed the frequent occurrence of pain in the shoulder in phthisical subjects—so common indeed as to be considered by many as a characteristic sign of chronic local pleurisy—and yet how strong must have been the feeling of surprise in many to find that the patient refers the pain to a part distant from the apex of the lung. I must confess to having long known the symptom, yet

never recognised its significance until the following case came under my care.

Miss I., æt. twenty-three, a milliner of very spare frame, came to consult me with all the symptoms of incipient phthisis. There were, however, no well-marked physical signs to be detected on an examination of the chest. She was very weak, and unable to pursue her occupation. Under the use of steel, cod-oil, &c., she improved considerably. But she now began to complain of pain in the shoulder, similar to what she had when first she had been taken ill. I at once examined the thorax, and finding no sign of pleurisy, made farther inquiry respecting the pain. She pointed out as its seat the trapezius muscle in its course from the occiput to its claviculo-scapular attachment. My next inquiry was, what had she been doing? She had been able to return to sewing and knitting! and both of them brought on the pain. When the pain came on, which it never did till an hour or two after she had got up, she commonly laid her work down and went out for a walk: this increased her sufferings—the pain increased till bed-time, and was not easy in bed unless she lay with her head still. She did not use an arm-chair, never went to rest during the day, &c. Here it was evident that the trapezius was overworked in having habitually to support the weight of the head and shoulders in knitting, &c. I scarcely need add that my only prescription was the use of

an arm-chair. Pain in the infra-clavicular region is also common from excessive use of the pectoral muscle. I can scarcely leave this point without recalling to those of my own sex the difficulty they have in reading in a carriage for any length of time, walking arm-in-arm with a friend, carrying a gun, a great-coat, or any other thing which brings the trapezius into action, without feeling thoroughly weary in the "shoulder." Is it, then, to be wondered at that females, whose sensibility is so much more exalted than ours, should have pain from similar causes?

Next to the trapezius, the longissimus dorsi, or erector spinæ, is the most frequently affected—as might readily be anticipated by the work which it has to perform in keeping the body erect during sitting, standing, and walking. We are all familiar with pain in this muscle after having had a long ride in a railway-carriage, a long stand in a crowd, and the like. It is to be noted, too, that a continued stretching of its strong fibrous aponeurosis is productive of as much inconvenience as over-exertion of the muscular structure,—thus, digging or weeding in a garden, or working in any position that requires much stooping, becomes almost intolerable after a certain time.

In practice I have found pain in this muscle is brought on by railway travelling, by having to carry a heavy infant or other great weight a large portion of the day; and, as might be expected, it

is extremely common in pregnant women, upon whom there is so great an additional burden thrown. Referring to works on spinal irritation, and reading cases detailed there, we may add, that the practice of carrying heavy weights upon the head, such as water, stones, fish, &c., have been a very fertile source of pain in the lumbar muscles.

The following are good illustrations of the phenomena resulting from excessive action of the erectores spinæ, &c.

I was consulted, a few days ago, by a lady, respecting her nurse, an elderly woman, upwards of fifty, who had been brought home in a sort of fit, and who had ever since been complaining of severe pain in the back. Inflammation of the spine had been feared, and she had been recommended to apply blisters, and to take aperient medicines. The woman had taken the latter, but refused to apply the former, till she had seen me. A short inquiry elicited that she had lost her appetite for some time back; that the child she had to carry was very heavy; that the fit resembled an ordinary fainting one, and that the pain in the back had existed long before the fit, but had been more severe afterwards. *It was compared to hot water poured down the back, getting hotter and hotter, till bed-time.* It rarely came on before noon, was always relieved by throwing the head and shoulders back, and was well the instant she lay down. The pain, I found by manipulation of

various parts, was the worst in the erector spinæ, on both sides, and in the aponeurosis of the trapezius muscle. I recommended simply a tonic, rest during the day, in the recumbent posture, for half an hour, and an abstinence from all depressing agents, and when I next heard of her she was perfectly well.

Mrs. W. J., æt. thirty, of spare build, of very active habits, and living in a healthy part of the country, was suddenly seized with intense pain in the small of the back, on the right side. Her husband, fearing some deep-seated inflammation, sent for me. I elicited the following account:— She had been, for the last ten days, complaining of lumbar pain, which was especially severe at night, but went off when she lay down. She had been exerting herself, more than usual, in carrying water to her husband's room, who was laid up with an accident, and had much stooping over him. There was company in the house, and she could take no rest during the day. Her appetite failed. On the night in question, she had been carrying away a heavy slop-pail, and, on her putting it down and rising again, a sudden and intense pain in the right lumbar region seized her; a lump came, the size of a small lemon, in the fleshy part of the longissimus dorsi, evidently cramp; she almost fainted; was pulled by her husband on to the bed, and was then seized with a severe rigor. On rising for a necessary purpose, the pain returned

with renewed violence, and it was with difficulty another fainting fit and rigor were staved off. By rest the pain was relieved, but did not go away entirely; coughing, laughing, and any attempt to turn, brought it on again. The pulse was quiet. It was not difficult to explain the phenomena, and to prescribe for the cure.

Rest in bed for a few hours, a more frequent recourse during the day to the sofa, and a diminution of work, together with a few doses of steel, brought the patient round directly.

In this case the cause was readily detected; in others it is a little more difficult to find. This arises chiefly from the preconceived notion that the exertion must necessarily appear to the patient and the doctor as extraordinary. If, however, we bear in mind that the commonest efforts may become excessive, in consequence of diminished strength, we shall never be at a loss. Who, for example, would consider that riding four miles in a car would prove an extraordinary exertion to one who had been riding almost daily for a week; yet, that it was so, the following case will prove, in which the abdominal muscles were implicated, as well as the erector spinæ, &c. :—

Mrs. L., æt. thirty-eight, a lady of somewhat delicate constitution, but of active habits, and one who had never worn stays,* came under my care

* I mention this circumstance because it is evident, from another case which I shall relate, that a well-made corset does give a great

for hemicrania. She had been much harassed by servants leaving her, and had to undergo great exertion in managing her large family and household. She had also at the time profuse menorrhagia, and subsequently an attack of diarrhœa. She had every morning a very suspicious cough and distressing sickness, and was in very low spirits, as she dreaded an attack similar to a preceding one, which nearly brought her to the grave. She gradually grew worse, and lost all appetite; the cough increased, and there were fits of excessive despondency. Change of air was recommended, and she went out daily for a drive, but came back exhausted. She then went for a time to Bootle. She felt revived at first, and slept comfortably for a few hours, but was then awakened by intolerable pain in the right flank, and a swelling, the size of an egg, attended with vibrating sensations. The acute pain left her, but was constantly recurring in mitigated degrees,

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deal of artificial support to the body. This is evident from the greater length of time that women can sit upright compared with our own sex —from the atrophied condition of the longissimus dorsi in the female compared with the male—from the excessive difficulty women accustomed to stays have in dispensing with them during the day—and the frequency with which spasm or cramp comes on in some of the erect-keeping muscles when the stays are laid aside. An individual, therefore, without any artificial support, is more obnoxious to muscular pain in the trunk than one who does not attempt to keep the body upright without assistance. When stays are not worn, a simple elastic belt is of great service. It has been objected, that stays impede respiration by interfering with the action of the diaphragm; but this does not hold in the female sex, for, as Dr. Walshe has shown, they breathe with the upper part of the chest habitually, and not like man, with the lower.

both when she moved and lay still. She tried chloroform externally, and sinapisms, without effect. No position could be found which gave relief, except the curious one of lying across the bed with the face over one side and the feet over the other, or with a hard pillow under the affected side (*i. e.*, to stretch the cramped muscles as much as possible). The pain now extended towards the median line, with a swelling under the right ribs, and a drawing or grasping feel in the external oblique. From previous experience, she felt assured that the pain was inflammatory. I had no hesitation in assuring her that the pain was muscular, that it was on the right side only, because she had used that side most in leaning against the car (her husband sat on the left). It was, however, with great reluctance that she accepted this solution of her case. Instead of punishing her with severe remedies, I applied a strong solution of morphia sprinkled on cotton wool to the part affected, and kept it in its place by a long roller towel applied as it is after confinement. A soothing and tonic plan of treatment was kept up, and this, with the rest, quiet, and change, speedily restored her to comparative health. I have since ascertained that she had previously been a victim to muscular pains in many other parts. Her first attempt at walking, after her long illness, was attended with intense cramp in the rectus abdominis and external oblique, which came on immediately

on leaving a car in which she had been taking an airing, and for some time prevented progression. She had suffered habitually during pregnancy from aching in Poupart's ligament, and has often had to rest her head for an hour at a time to escape from spasm or burning ache in the trapezius. She has had pain in the tendinous expansion of the triceps extensor cubiti, from resting her head on her hand, &c., and is no stranger to pain in the pubic insertion of the rectus. Having never recognised the cause of these pains, she had been labouring under the idea that she had a disease that medicine could not touch. The dissipation of this perpetual dread formed no slight element in the cure.

The quadratus lumborum is sometimes the seat of pain, and from its position, both patient and doctor too often assume the existence of disease of the liver.

The following illustrates the amount of mischief produced by such a mistaken diagnosis:—

Mrs. N., æt. sixty-four, came to consult me one day respecting the manner in which she was to take a mercurial pill and saline aperient that had been prescribed for her by her last medical adviser, but which had been accompanied by rather ambiguous directions. Having known her for many years, and being greatly shocked by her altered appearance and extremely feeble voice and manner, and having heard much from her relatives about the pertinacious manner in which she had dosed herself with aperients, I took the oppor-

tunity of inveighing against so much medicine, and pointed out a variety of mischiefs that had already occurred to her, and others which might be anticipated. She was, however, for a long time deaf to my advice, for she was convinced, from certain sensations in her right leg and thigh, that she was threatened with apoplexy. She suffered, too, from pain in the right side, which all her doctors, and she had had many, assured her was "liver;" and to crown all, *these pains were always improved, she assured me, the day after she had taken her pills, &c.* I told her she ran a risk of purging herself into an apoplexy rather than out of one, and ended by recommending cod-liver oil. Circumstances gave me full opportunities for noticing her habits, and in them I fancied I could see the cause of her ailments. I found her sensibly weakened in voice and muscular power after every pill she took, and that on that day, as a natural consequence, *she passed an unusual long time on the sofa.* In about a fortnight she began to take the oil and leave off blue pill, &c., and in another fortnight there was so wonderful a change that she was never tired of talking of it. She could now dress in one hour instead of two, and walk four miles instead of one. The oil came in for unbounded praise, and she again came to consult me, to ascertain whether I could effectually convince her of the non-existence of disease of the liver and threatened apoplexy—the ghosts that had been so long haunting her.

Her first question was, "Do you think that I have not diseased liver. I have so much pain here," (placing her hand over the right quadratus lumborum muscle,) "and every doctor I have yet consulted, has told me that I had?" My answer was a decided *no*. I ran over, rapidly, the signs of real disease of the liver, none of which she presented. I told her that there was no liver at the part she pointed to, and then seeing her sitting in her usual posture, I told her that *the cause of all her suffering was the habit she had of sitting erect, without assistance or sufficient support.* I told her she would always find relief from lolling in an easy chair, or lying on a sofa—called to her memory how that her medicine days were always followed by this increased repose of body. I expatiated on the freedom from pain in the morning, and its steady increase till bed-time; and then its sudden cure, and was proceeding to further demonstration, when I was interrupted by the remark, "You're right; and now I can explain the pain in my thigh and leg, which I so long supposed was a sign of apoplexy. I am, she continued, in the habit when I sit of balancing myself just on the edge of my chair, and rocking myself towards the right side, and am constantly using the right leg to steady myself, and when the pain is very bad I sit back, and throw my foot on to a stool, and it always relieves me; how stupid never to have thought of this before." My patient left me as light-hearted

as she had become strong-bodied, and, in the warmth of her feelings, told me that she had thought she was coming to Liverpool to die, an idea that was now dissipated. She left with a large bottle of cod-oil, and bore a long journey better than she had done for twelve years or more, and has continued well up to the present time.

The glutæi muscles, which have a great deal to do in keeping the body erect, and raising it up after stooping, &c., may be affected in the same way as others, as the following case will show:—

Mrs. B., æt. forty-five, summoned me to see her for what she deemed was an attack of inflammation of the spine, &c. I found her confined to bed, with intense pain at the lower part of the back and over the left glutæal region, and from her history I learned that the complaint had come on two days before *during sleep*, that it had gone off again ere morning, but had returned with such violence at the end of a long walk in the evening, that she had been for two hours unable to move. She had reached home, in a car, with great pain. She had had a painful night, the suffering returning with every turn she made. Towards morning the pain left the one side and attacked the other, though with less severity. She was easy when she lay still, but the slightest movement brought on her suffering. There was no fever; the pulse was quiet, eighty; the tongue was clean and moist, and the appetite good. On making particular inquiry,

I found that the day before the attack she had been for some hours engaged in rubbing down tables, chairs, &c., a thing she was not accustomed to, and which, of course, involved frequent stooping and rising. She had been living more poorly than usual for a week before, and she had felt knocked up ere she went to bed, and had been much jaded by her walk. I ascertained the seat of the pain to be the glutæi, and that when the suffering was at its height she was obliged to lie in such a position as would best relax their fibres. I had no scruple in assuring her that the pain was not inflammatory, that it entirely arose from the peculiar nature of her exertions, and that it would soon go off. I prescribed more generous living, an opiate at night to procure sleep, an opiate liniment for local use, and complete rest, and I had the satisfaction of knowing that my patient had recovered by the next evening.

This case is another illustration of the severity of the crampy symptoms when they first come on during sleep.

In July, 1857, I was consulted by a gentleman attending the hospital and my class in medicine, respecting what he feared was a disease of the liver. The following was the history he gave:—He was a druggist, and had served his time with a surgeon. His hours then were from seven in the morning to eleven at night. After he had been at it for three or four years he had an attack of black jaundice,

which was attributable to hard work, and he was cured soon by aperients and tonics. After about another three years he began to suffer from pain in the right hypochondriac and epigastric region, for which he consulted a physician, who told him that he had considerable enlargement of the liver, and had ordered blue pill, &c., which made him worse. He had then gone away for change of air, and recovered. He was married, and had always lived in every respect a very temperate, well-regulated life. At present his chief complaint was referred to the region of the right quadratus lumborum, &c. His urine was high-coloured and lithatic. He was half "moidered" on lying down in bed, and felt faint and dizzy when he got up in the morning, and saw in the glass that he looked yellow about the eyes. He was not overworked now, as he had an assistant in his business. His skin was sallow, cool, and moist; the tongue particularly clean, the pulse small, eighty-five when standing. He had been taking soda powders regularly, and the bowels were open, and the motions healthy. He had lost all appetite, and was doing the same work as usual on a diet of tea and an occasional sup of ox-tail soup! The pain I ascertained rarely came on early in the day; it increased in severity towards evening; it was always relieved by lying down, though it sometimes caught him in his sleep, and when turning in bed. I had little difficulty in convincing him that his

sufferings arose from the muscles of the back, &c., being called upon to perform, in a weakly condition, what they were barely able to do when he was strong. I recommended rest, a frequent recourse to egg and brandy beaten up together ("cock-a-doodle broth," as Peter Crawley calls it, in Reade's *Never too late to Mend*), until the healthy appetite returned, the use of quinine as a tonic, and, if that was not sufficiently strengthening, to take steel and cod-oil, and by all means to have some pure fresh air as soon as possible. Under this treatment the symptoms rapidly disappeared.

I have already referred to pain affecting the pectoral muscles, and possibly the serrati. There is another form of extreme interest, and one which, from its close resemblance to pleurisy, might readily be, as indeed it too frequently is, mistaken for pleurisy. Its ordinary name is pleurodynia, and it consists essentially of muscular pain, and frequently cramp in the intercostal muscles. There are few individuals who are not acquainted with it under the name of "stitch in the side;" and there are few who do not know that it is brought on by running, an exertion that involves the fullest action of which the intercostals are capable, both in the "working" (to borrow a nautical term) of the body, as it sways about with the alternate flinging of arms and legs, and from the great efforts made to aerate, by full respirations, the increased quantity of blood thrown upon the lungs. There are

few, too, who do not know that stitch is most common in growing lads, and those who are not strong; that it does not come on till the muscles have been long worked, and that as they increase in vigour by practice the tendency to stitch diminishes.

But there are few who recognise the fact that the intercostals have a great deal of work to do in keeping the body erect, and turning it from side to side, as well as in assisting respiration, and that this business may be too much for them to perform without pain, when they are reduced in power from any general debility. Persons threatened with phthisis are in a state of great weakness, and are therefore particularly obnoxious to these pains; and the same remark applies to growing persons, delicate individuals, and others pulled down by any exhausting discharge.

These pains commonly come on at night, or towards evening, or after some unusual exertion, such as sneezing, coughing, laughing, &c.; they are not severe at first, but are "wearing;" and as they often come on in the act of turning round in bed, they interfere with sleep. They resemble the pain of genuine pleurisy, inasmuch as they are always aggravated, and often induced sharply by taking a deep inspiration, the sudden catch being decidedly marked. They differ, however, from pleurisy in being relieved by pressure, and rarely produced by percussion (except it is made directly in the intercostal space, when it will

sometimes produce cramp). Of course there are no physical signs of pleurisy present, but we must, in making the diagnosis, ever bear in mind that there may have been pleurisy years or months ago, the physical signs of which are still remaining, and these may, with the pain, lead to the belief in present existence of disease. (*Vide* note, p. 24.)

How intensely severe these intercostal pains may become the following case will show:—

Mr. R., æt. thirty, an attorney's clerk, who had been for some time under my care, with all the symptoms of incipient consumption, summoned me at five o'clock one morning. I found him in intense suffering, from pain referred to both sides of the thorax. The pain had come on *during sleep*, and was so severe that he could not take a breath or answer a question without its returning. He kept his hands firmly fixed on both sides, as if to stay its acuteness while he was in the act of speaking. To attempt to take a deep inspiration was agony. The apparent dyspnœa and pain led me to anticipate the occurrence of pleurisy, but there was not a single physical sign of its existence. A farther investigation proved that the intercostal muscles were the seat of pain; and the next inquiry into the probable cause of this elicited the fact, that after his usual day's work was over, at ten o'clock at night, he had gone out at midnight to join a set of "choice spirits," with whom he had remained till three, and they were all such "funny

dogs," that he had been in a constant roar of laughter all the time. He had felt nothing on his return, soon fell asleep, and awoke in an hour in the condition in which I found him. It was tolerably clear that he was suffering from intercostal cramp; but in spite of antispasmodics, æther, and hot fomentations, some hours elapsed ere he got any relief. Had I been then more experienced in these affections, I should have applied a bandage to the thorax, and given an overpowering dose of opium.

Leaving for a time the consideration whether the heart, an organ with all the characters of voluntary muscle, may or may not be affected in a manner analogous to others, we come to the diaphragm, and inquire whether it is subject to muscular pain, or other affections similar to the intercostals, which it resembles in being a muscle of respiration.

Our first consideration is, what are the diseases in which the diaphragm is unusually exerted? The reply is, asthma, in which it has to work with greatly increased force to distend the chest; bronchitis, in which the same phenomenon is to be noticed, and some other diseases of the lungs, attended with dyspnœa, &c.; excessive cough, vomiting, difficulty of defæcation, parturition, &c. Our next investigation is, whether in all these cases there is any symptom not fairly traceable to the diseased condition of the organs themselves, to

neuralgia, or to other muscles. We find it in the constrictive pain round the body, the pain shooting from back to epigastrium, and from side to side; in the painful respiration referred to every part of the diaphragm's insertion, and the sudden catch in the breath following a full inspiration—a catch not referrible to the intercostals or the abdominal walls.

The abdominal muscles are very commonly the seat both of pain and cramp or spasm—as much so, probably, as those of the back. The locality and intensity of the affections vary with the strength and occupation of the patient. Complaint in some is most urgent at the epigastrium; in others on the left side; in others on the right; some complain equally of all these spots. In other instances, the suffering is referred to the iliac and hypogastric regions; and in others, the hypochondria and the umbilical regions are the seat of pain, &c.

When the pain occurs on the left side, it is commonly pooh-poohed, for the spleen is not very liable to inflammation, or it may be called neuralgia; but when it occurs on the right side, where there is a large organ, it is supposed to indicate disease of the liver, inflammation, congestion, or abscess; fæcal or other distension of the colon; or a new growth, cancer, hydatids, &c.

When the pain occurs at the epigastrium, it is referred to inflammation of the stomach, gastrodynia, dyspepsia, spinal irritation, or some other

cause. The following is a good example of this form of the complaint, and its origin:—

John Williams, æt. forty-five, labourer in a white-lead works, and of tall, spare build, and sallow complexion, was admitted into the Northern Hospital, complaining of severe pain at the epigastrium, supposed to be the result of the baneful influence of lead. The pain was described as a dreadful weakness, and was referred entirely to the ensiform cartilage. He had been repeatedly under treatment for it, and had been blistered and leeched without relief. At his admission he was wearing a large strengthening plaster. A close examination of the heart, lungs, and abdomen failed in detecting any disease. There was no blue line round the gums, the tongue was clean, digestion indifferent, the bowels regular, both legs were very remarkable from the number and size of varicosities in the veins. Failing to ascertain any serious complaint, I asked him how he was on Monday morning (*i. e.*, after the rest of Sunday). "Quite well, sir," was the answer. "And on Saturday night?" "Quite done, sir; so bad, I can scarcely reach my home; it often takes me half an hour" (to go half a mile), "and I am sometimes fairly doubled up with pain." I next inquired what his work consisted in; and found that it was to raise from the ground and throw up to a stage above him heavy materials, which involved frequent contraction, and a frequent stretching of the

recti muscles of the abdomen. I ascertained that towards the end of the week the different segments of the rectus were frequently cramped, that he had about the same period "lumps"—*i. e.*, isolated cramps—in the left external oblique, and that he had occasionally pains in the region of the erectores spinæ. I considered the case one of simple over-exertion, directed the man to remain in bed, gave him steel and cod-liver oil, and on my next visit, two days after, the man declared himself quite well. He remained in the house, however, until he was sufficiently improved in health to bear the hard work he had to get through without painful results.

The pain complained of in the side is so very common that there is scarcely one young woman in three who escapes it altogether. It is, as we have mentioned, sometimes situated on the left and sometimes on the right, and is occasionally met with on both. It may or may not be attended with swelling—*i. e.*, muscular cramp. The sufferings it involves are often very severe, and occupy the patient's thoughts, to the exclusion of everything else. By some the pain is considered to be neuralgic, and it is constantly adduced as one of the symptoms of spinal irritation. It has its seat under the mamma,* at a spot corresponding to the com-

* This infra-mammary pain well deserves the closest examination by the practitioner. I would suggest the following experiment:—Let any one stand or sit before a mirror with the chest and abdomen bare, and then

mencement of the sheath of the rectus muscle, but it is also to be met with along the margin of the ribs extending along the origin of the external oblique.

I have already spoken so fully of the diagnosis of this form of pain, that I need not recapitulate the grounds on which the opinion of its being muscular is based.

I have met with many instances in which an inflammatory origin has been assigned, and the unfortunate patient has been bled from the arm, leeched, cupped, or blistered, purged with blue pill, and starved on water-gruel. As from the severity of the supposed disease, and the quality of the treatment, the patient has been confined to bed, an apparent cure has followed, and the success of the treatment is so marked, that when the symptoms occur on the invalid's moving about as usual, the same treatment is insisted on; it is again successful, and from the same cause, and this may go on until the health is broken altogether. I have

attempt to approach the ribs as closely as possible to the crest of the ilium —a position always assumed by an individual who has become weary of standing or sitting upright. He will see one spot, corresponding with one of the interdigitations of the serratus magnus and external oblique, where the skin seems more firmly adherent to the parts below than at any other spot. This spot is precisely the one to which the pain is always referred. The left is more frequently complained of than the right side, because a person naturally leans more towards the former than the latter. The tenderness on pressure is not genuine, for in describing the pain the patient almost always presses on it herself, and finds relief therefrom. It is to be explained by reference to the facts recorded in the notes pp. 19 and 21, to the effect that a long-continued strain on a tendinous part will produce tenderness on pressure as well as steady pain.

myself had a patient who was so firmly convinced of the value of the plan, that, though already anæmic from repeated bleedings, she came to me to be bled again. It was in vain I urged that every bleeding had really made her worse; she persisted in her view, and went elsewhere.

Pain referred to a small spot below the mamma, commonly the right, is frequently complained of by women during pregnancy. The spot is about the size of a shilling, and is very tender on pressure. It corresponds with the upper termination of the "linea semilunaris." The pain is pretty constant, slightly relieved by the recumbent posture, but greatly increased by lying on the affected side; it may come on during the third month, and continue to the time of parturition, its "wearing" character greatly depressing the patient's spirits. It is not relieved by leeches, blisters, or sinapisms; warm fomentations do some good, but rest is of the utmost importance. Occasionally a similar pain is felt in the lower end of the linea semilunaris, and apparently from the same cause. It seems to be due to a stretching of the fibrous tissue, from the gradual enlargement of the uterus, unattended with any inflammatory condition.

One case has come under my notice where a lady suffered most severely from it during one pregnancy, considerably during the next, and not at all on a third; and the only difference that could be detected was, that on the first occasion she

was very weak, on the second was stronger, and on the third was in good health throughout.

And here, without violating materially the plan we have laid down for ourselves, we may enter upon the question—Are not the fibrous and other tissues more easily "stretchable" when an individual is in a weakly condition than in a strong? We see, for example, the strong ligaments of the knee-joint give way in the weakly children of strumous parents, and the individuals become "in-kneed" or "bow-legged." We see in the same class the powerful ligaments of the spine give way, and allow the person to have great lateral curvature. From a similar cause we find the bones yield to pressure and become unusually curved: we find the skin give way, and the scrotum become unusually long from any debilitating agency. The bowels readily allow themselves to be distended by flatus in the weak—a most unusual occurrence in the strong. The veins are no exceptions to this rule, for we find them distended and varicose in those only whose constitutions lack vigour; and we farther find that an individual will suffer from painful distension when they are weakly, while a restoration to firm health will, while it enables the fibrous coats of the veins to resist more, reduce the pain complained of. In illustration of this particular consideration, it may be added that the lady whose case has just been recorded suffered during the first and second pregnancies most

severely from excessively distended veins in and about the vulva; but on the third occasion there was scarcely any distension and no suffering.

Pain in the plantar fascia, and sometimes so complete a stretching of the fascia and the ligaments of the foot as to destroy the plantar arch and make a person flat-footed, is common in the weak from too much walking. Weakness of the ankle is not unusual from a similar cause; and I have heard many pedestrians complain of the frequency with which they "put their ankle out" on descending a mountain at the end of a long day. It is remarkable that in these circumstances, though the pain is very intense for a time, it goes off without other symptoms of sprain.

In many instances this facility of distension is unaccompanied by pain, but when the distension is in a fibrous tissue, and suddenly produced, the suffering is often severe. Whether the greater pain complained of by those of weakly condition in the fibrous structures, from a muscular strain, is due to their being more stretched, or to their being in a more exalted state of sensibility, or from both causes combined, it is difficult to say with certainty; but the broad fact is certain, that pain in the tendinous parts of muscles is both more common and more severe in direct proportion to the debility of the individual.

This pain in the side is commonly accompanied

with another, referred to the hypogastric region; and these, singly or combined, are most common in housemaids, milliners, seamstresses, and others, who have much stooping and using of the right hand and arm. The symptoms which accompany the pain are usually loss of appetite, palpitation, failing strength, sometimes diarrhœa, more commonly constipation; some disorder of the uterine function is usually to be detected, the discharge being either painful, scanty, absent, or profuse, and there is abundant secretion of urine. Were it not for the pain, the case would seem one of atonic dyspepsia only, or simple debility. It was a long time before I could fully comprehend the nature of the hypogastric pain. I could not satisfactorily refer it to the bladder, uterus, colon, or small intestines. The difficulty was at last solved by a young medical man who came to consult me for what he considered was inflammation of the bladder. "The pain," he said, "is here (pointing to the pubis), right in the bone at the top." A careful examination of all the other signs showed that there was nothing wrong in the bladder, and that the pain was confined to the insertion of the rectus and the inner end of Poupart's ligament. His case was one of great interest: he had had gonorrhœa, but had been perfectly well for months when he began to feel this pubic pain; but he was so convinced that it was produced by vesical inflammation that he became perfectly miserable. He

was house surgeon, however, to a dispensary, and had an amazing amount of work to do both in the surgery and visiting patients: he lived abstemiously, and was low in health and spirits. The pain only came on in the evening, and it made him wretched, for that was the very time when he was the least able to forget it, and unable from fatigue to take up any active exertion. I recommended tonics, and rest during the middle of the day, and he soon forgot the pain; but his mind had dwelt so long upon the one idea, that a long period elapsed ere he recovered perfectly the *mens sana in corpore sano*. Since then I have had several opportunities of finding that female patients, from natural feelings of modesty, point to the hypogastric instead of the pubic region, and that in a great number of instances the existence of the pain is suppressed altogether from a similar cause. The following case illustrates the connexion between the lateral and pubic pain:—

Mrs. P., æt. twenty-seven, came under my care for severe pain in the right side, which she considered to be inflammatory. On examination, I found that it was confined to the costal origin of the external oblique; that she was free from it (except in certain positions) while in bed; that it came on after she had been walking, standing, or sitting; that it was always worse at night, and sometimes prevented her sleeping; that when severe, it came on suddenly, and went off with a

twitching sensation; pressure and warmth relieved the pain; the pulse was weak and quiet; the bowels rather confined; the tongue was slightly furred and indented at the edges by the teeth; the catamenia were regular. The appetite had entirely failed, and she had for some time been low and easily excited to tears. I informed her that the pain was not a mark of inflammation; that it arose from weakness, and endeavouring to make a debilitated muscle do the work of a strong one. I prescribed tonics and a very generous diet, with daily rest and gentle exercise in the open air, and soon found the pains disappear. When subsequently conversing on this subject with my patient, with a view to ascertain whether she had had any other pains of a similar origin, I found out that she had two years previously been under medical care for severe pain referred to the region of the groins and the pubis; that she had been repeatedly leeched under the impression that it was inflammatory; that the leeches had done no good; that the pain was of a hot, aching, or burning character, and was of such daily occurrence that it seemed to wear her down with low spirits. On particular inquiry, it appeared that the pain was confined to Poupart's ligament and the insertion of the rectus muscle, and she was always relieved by rest in bed or lolling in an arm-chair with the legs raised.

In narrating the case, she laid peculiar stress on the mental depression produced by the perpetual

recurrence of the suffering, and this forms a not uninteresting feature in this class of cases generally. The despondency does not arise simply from the pain, but from that condition of body upon which the pain depends. We all know that when an individual is weakly, either from loss of blood, diarrhœa, or dyspepsia, low spirits are as common, if not as constant, as are joyousness, enthusiasm, and exuberance of spirits when a person has recovered health after fever, or when emancipated from town influences he breathes the pure air of the Cumberland or Switzerland mountains. The effects of tonics are not confined simply to improving the condition of the muscular system: they affect, to a similar extent, the mental nervous system, and thus the patient experiences a twofold advantage; but this advantage can never be fully consummated until the patient is able to understand thoroughly the cause of the pain; for if she remain ignorant of this, at every return of the suffering there is an increased depression of spirits, from a mental being superadded to a physical cause.

In consequence of the character of the pain and the appearance of the patient, a neuralgic origin is frequently supposed, and, speaking generally, where such a view gives rise to the adoption of a tonic plan of treatment, little harm is done, and the patient will get slowly better. The advantage, however, of *increased rest* is such that a correct diagnosis materially hastens the cure.

The nature of the pain in the pubis can readily be understood by any one who has sat up all night reading, writing, or playing at any game. Few enthusiastic travellers escape it, and the accoucheur who sits for many a weary hour at his patient's bedside is constantly its victim. They suffer from the unusual strain upon the muscle which is required to keep the trunk erect or bending forwards; and can we wonder, if the strong man feels pain, that the poor milliner, the ill-fed seamstress, the chlorotic or weakly housemaid, or sickly cook, whose muscles are badly developed, suffer from a similar cause? Not knowing the origin of the pain, they take either no measures to relieve it, or those measures are misdirected; they try aperients, leeches, and low diet; they fancy the womb is at fault, and perchance get examined with the speculum and duly causticed by some one who sees the uterus in every female ailment; they grow miserable with the continued ache; their mornings are bearable, their evenings are all but intolerable. Once explain the cause, however, and improve the patient's strength, and relief soon follows by simple indulgence in the recumbent posture, or supporting the back in a comfortable chair.

Perhaps the most serious form in which we meet with intense muscular pains, is that occurring after prolonged and excessive vomiting. The healthy man may feel something of this after a voyage in which he has suffered from much sea-sickness. He

speaks of it only as extreme soreness; and he is tolerably able, from having had similar pains elsewhere, to trace it to its true cause; but where violent sickness comes on under other circumstances, and is followed by severe pain, the connexion is too often either unsuspected or ignored. The violence of the suffering suggests the idea of its being dependent upon inflammation, neuralgia, or hysteria; and it is looked upon as a symptom of great importance, as it is attended with rapid pulse, strong evidence of disorder of the stomach and bowels, and great tenderness of the parietes of the abdomen.

The following is an instructive example of a case of this kind, in which the sufferings were said by the patient *to be far more severe than those she had undergone in any of her confinements*:—

I was called in consultation to see Mrs. L., æt. thirty-eight, the lady whose case I have previously referred to, p. 39, and the history I obtained was the following:—After being unusually well, she was induced to take a drive on a cold day, by which she was thoroughly starved, and the catamenia, which were "on" at the time, were stopped abruptly. On her return, she had sat by a warm fire, and taken some hot negus; but the discharge did not again come on, and she gradually became weak, faint, and sickly, and when I saw her, she was vomiting almost incessantly. She seemed low and extremely weak; the pulse was

fluttering and variable, at one minute 104, at another 120 and upwards. There was great restlessness—the patient constantly moving from bed to a couch, and changing her position on each every few minutes. She only spoke in whispers. It was with difficulty we could see the tongue. The vomiting and retching came on every half hour, and were aggravated by the patient putting her finger to the fauces. The ejecta were small, consisting of mucus only. Nothing she took remained on the stomach, and she had not had any sleep for some time. Champagne, brandy and soda-water, and morphia, were prescribed, with arrowroot and brandy, in small quantities, every hour. Next day the symptoms had undergone only the slightest amelioration; the arrowroot alone stayed on the stomach; and there was superadded severe pain in the left hypochondriac region, and some tenderness at the epigastrium. For this a strong solution of morphia was applied, and subsequently a large poultice, consisting of scalded hops. This produced complete numbness of the parietes and some cessation of pain. Some sleep was procured; the restlessness diminished; the pulse became stronger and less variable; the sickness abated; and the bowels were relieved by an injection of warm mutton-broth: the arrowroot and brandy still stayed, and beef-tea could be taken pretty well. On the fifth day the vomiting had ceased entirely; but the patient complained of intense pain in the trunk,

which shot up to the neck and head, and down the hips to the knees. She was constantly moaning from its severity. She described it as if starting from a focus; it rushed along in radiating lines to all parts and in all directions. Up and down along the erector spinæ, vibrating, twitching, and tearing, the pain was constant, but there were exacerbations of increased severity. It was also described (by the motions of the patient's hand and the words she employed) as being equally severe in the external oblique, the internal oblique, the transversalis, the rectus abdominis, the quadratus lumborum, the latissimus dorsi, the pectorals, and the gluteal and crural muscles. The attachments of the diaphragm were also mapped out by the painful spots. There was soreness of the skin, and tenderness on pressure. The pulse, however, was reduced to 98, and was steady, and there was some refreshing sleep at night. The lady had considerable *embonpoint*, and seemed to be in good condition.

The question now to be decided was—Are the pains hysterical, or are they muscular? It was clear that they were not inflammatory. If the former, experience would lead us to expect that they would be difficult to cure, and that the effect of direct and active local treatment would be prejudicial. If, on the other hand, they were muscular, there was reason to believe that they would soon wear themselves out, now that the vomiting had ceased. Considering that all the

seats of pain complained of were occupied by voluntary muscles brought into operation by severe vomiting; that the pains had not come on until these muscles had been unusually, and even intensely, exerted; that the pain was described as following the course of the fibres of different muscles, rather than the course of any nerves; that even the pharyngeal muscles did not escape; that there was no neuralgic pain in the face or head; that the pain was moreover paroxysmal, and existed in the intervals as intense soreness; that it was aggravated by any motion, as, for example, the effort to expel flatus; and comparing all these symptoms with those that follow prolonged sea-sickness, I ventured to predict that the pain would be gone, or nearly so, by the next day, and that its nature was analogous to the soreness that a strong man feels after unusual exertion. A mild tonic was ordered as medicine, and a stimulating and strongly odorous liniment was prescribed, with directions for it to be used in shampooing and friction frequently. In twenty-four hours the pains had all but disappeared, and I took my leave on the seventh day, the patient then being convalescent. She died shortly after of inanition arising from a total absence of digestive power. The *embonpoint*, however, continued to the end of her life.

The following are cases, by no means uncommon, of cramps in the abdominal muscles productive of great suffering:—

Ann B., æt. thirty, an exceedingly delicate-looking woman, who had been confined about two months, and was still nursing, was admitted into the Northern Hospital, March 29th, 1857, with "tumour of the abdomen, situated at the right side." On examining her by percussion no tumour could be detected, but I noticed that every stroke of Piorry's hammer on the pleximeter produced local spasm. I found that she had a severe cough, and that when this had lasted a little time there was such an intense pain in the abdomen that it doubled her up, and she had to go upon her hands and knees for relief. On asking her to describe the seat of pain, she mapped out all the fleshy parts of the abdominal muscles and the course of their fibres in her description of the accession and departure of the pain. The severe pain was always attended with "a lump," which went away with a beating sensation. The woman had no appetite; had been living very badly; perspired freely, and had still a profuse lochial discharge; she was intensely weak, and could with difficulty move about except when under the influence of the terrible pain.

There was little difficulty in the diagnosis. The abdominal muscles had been overworked. The treatment adopted was rest in bed, cod-oil, steel, a cessation from nursing, &c. The severe pains never came on after the second day of her admission; but the first day after she was able to sit

up, she had pain at the epigastrium, the pubis, on both sides at the infra-mammary regions, in the loins, at the back of the head, between the scapulæ, and at the shoulders. As she slowly gained strength these subsided, and she left the hospital entirely free from them at the end of two months.

Here is another case, in which the sufferings were less severe:—

One of the nurses of the Hospital was admitted as a patient into the ward, July 27, 1857; her appearance and manner were nervous and hysterical. For the last four days she had had diarrhœa, attended with violent abdominal pain, and frequent "cramps, which had made her roll about in every direction for ease,"—they had, however, ceased since she had been confined to bed. On making definite inquiry, I found that she had for some time had a burning or hot pain at the epigastrium, at the right infra-mammary region, at the pubis, and along Poupart's ligament; the catamenia were all right, the appetite good, tongue clean, and pulse natural. There were no special signs of hysteria. It was tolerably clear that she had been for some time only just equal to her daily toil, and that as soon as she was pulled down still more by diarrhœa, the muscles had become more irritable than before, and had suffered from cramp where they had previously only been weary.

The following is a somewhat amusing instance

of that pain which is referred chiefly to the pubic insertion of the rectus muscle:—Sarah McG., æt. twenty-eight, a tall, well-made Irishwoman, with considerable *embonpoint*, and at the time acting as maid-of-all-work in a house where the duties were very severe, and who had been a former patient in the Northern Hospital, where she had suffered from intense debility, called upon me, complaining of a "burning pain at the bottom of her belly, which seemed as if a hot coal were always there." "Her changes, too, were of a bad colour, and she could not tell what was amiss with her." She attributed everything to "having sat down in the dark on a very dirty privy." As I had some doubts about her moral propriety, I imagined that she had contracted venereal disease, and made an examination. Everything being perfectly correct, I instituted further inquiries, and satisfactorily ascertained that the burning pain was confined to the tendinous insertion of the rectus and inner end of Poupart's ligament; that it came on towards night, and was not present in the morning, &c. It was evidently due to exertion beyond her strength. Of course I recommended tonics, rest when practicable, &c.; but I subsequently ascertained that she had retired from "service" to the "streets," and never heard anything more of the case.

The following is a case in which the sensibility of the abdominal parietes was raised to an extraordinary pitch, but which does not seem to have

followed the ordinary course of muscular affections:—Miss M., æt. twenty-one, of pale complexion, delicate appearance, and consumptive family, yet of remarkably active habits, and taking horse exercise for some hours daily, complained of a severe paroxysmal pain in the abdomen, for which she took a satisfactory amount of opening medicine. As this produced no abatement, I was summoned. The strictest examination could detect nothing beyond pain and loss of appetite. There was no feverishness, no spinal tenderness, no uterine disorder, no flatulence or indigestion; the bowels were habitually regular; there was no blue line round the gums, and there were no signs of hysteria; there had not been any unusual bodily exercise, or any exciting mental emotion. She slept well, and seemed cheerful. There was little difficulty in ascertaining that the suffering was confined to the abdominal muscular parietes (including the levator ani); but it differed from the ordinary hysterical pain, inasmuch as there was no shrinking from pressure in any form, until it had attained sufficient force to stretch the muscles, and it was increased by any twisting motion. Warmth and antispasmodics were prescribed, but without marked effect, and the pain gradually increased in intensity. The efforts of talking, coughing, sneezing, defæcation, and micturition became all more or less acutely painful, and she could only speak in whispers. The pain was now referred principally

to the groins and Poupart's ligament. Any pressure was unbearable; she was unable to get any rest; the respiration was entirely thoracic; the pulse remained steady at 84; the tongue clean and the skin natural. The ordinary position of the body was extended and supine. The pain and loss of sleep produced great debility. The treatment consisted of anodynes locally applied, large doses of morphia internally, nourishing diet, and tonics. After having increased in severity during the first four days, the pain became stationary; in two days more it began to subside. The bowels were now relieved, the dose of opiates was diminished, the tonics were continued, and in eighteen days from the commencement she was perfectly cured.

As her mother had previously had a similar but milder attack, which yielded to morphia in a few days, the drinking water they used was analysed to ascertain if it contained lead. None of this metal was found, nor could the closest inquiry point to any other mode in which it could have been introduced.

It is not often that we are consulted respecting muscular pains in the lower extremities. I have, however, met with an instance where there was such acute suffering in the back of both legs as to lead the patient to the belief that she was beginning with rheumatic fever. The cause was simply in her having walked a long way to church on a

wet Sunday in a new dress and petticoats—for, to save these, she had gone on tiptoes!

The following, of a different class, was one involving very severe suffering:—

Miss L. C., æt. twenty-one, stout, and florid, and healthy-looking, and who, I was told, had long suffered from a curious affection of the knee-joint, came to consult me respecting a pain referred to the posterior part of the knee. The affection had come on suddenly *during the night.* I ascertained that the day before she had been quite well, enjoying herself at a pic-nic party, to which she had gone and returned in a pleasure-boat, having had, in all, six hours' sitting in a cramped position in a boat, and three hours' sitting in a carriage where there was no room to stretch the legs. On examination, I found intense tenderness over the tendinous portion of the *biceps cruri*, and that any attempt either to bend the knee or to extend the leg produced increase of pain. She had been wearing a knee-cap, tightly laced, and that joint was less than the other by an inch and a half. The pain was constant; but, at times, there was a twitching or creeping referred to the fleshy part of the muscles.

I found that she was not constitutionally strong, and that she was living rather low, to prevent too great *embonpoint.* On learning these particulars, I considered that the complaint was due to an unusually long sitting, in a cramped position, in a

pleasure-barge—that it was muscular, and not nervous, and that it would soon go off. I ordered, locally, a strong solution of hydrochlorate of morphia, to be used like water-dressing, an opiate pill at night, quinine, and generous diet. The pain was relieved by the anodyne in half an hour; and in two or three days the patient was perfectly recovered, and gave up, at my request, the use of the knee-cap.

She had previously suffered, she informed me, from similar attacks, and had been repeatedly leeched in consequence, and laid up for some time.

When once, however, she understood their nature, she avoided the causes producing them; or, when present, cared little for them. At any rate, she has never complained of them since to me or any of her friends, though nearly six months have elapsed since the last attack.*

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* Since the above was in type I have been told of three cases of great interest:—

One occurred in a gentleman who, on visiting the Lakes, had a long row in a pleasure-boat. The next day he was so ill as to summon his medical attendant from a distant town, under the notion that he had acute rheumatism.

A second was in a bricklayer, who, after six weeks' illness from bronchitis, did a day's work at digging. On the morrow he suffered so severely that rheumatic fever was suspected. In both instances there was tenderness on pressure over the abdomen: in the latter this was excessive and universal.

The third was a case of intensely painful cramps in the lower extremities. It occurred in a delicate young lady who had just returned from a ball, where she had been dancing with great animation the greatest part of five hours.

CHAPTER IV.

Causes which predispose to muscular disorders — Aphorisms — The irritability of a muscle is proportionate to its debility — Muscular action exhaustive — Various causes of muscular exhaustion or debility — Uterine disease a common concomitant, not a cause, of muscular disorders — Hysteria, the vague use of the term; its necessary connexion with the uterus doubted — Can gout be referred to the testes? — Comparison of reasons — The nature of chorea and convulsive diseases hinted at — Palpitation a proof of cardiac debility.

Leaving for a time these special manifestations of muscular disorder, let us examine into the causes which predispose to them.

In doing so, I must acknowledge my obligation to Dr. A. Wood, of Edinburgh, who has so ably handled the subject in the "Monthly Journal" for February, 1853. The following are the most important of his aphorisms:—

1. Contractility is the function of a muscle—the more perfect the organ the more perfect the function, and *vice versâ*.

2. A muscle is exhausted by action; it therefore requires an adequate amount of nutrition—(*i.e.*, the harder a man works the more food he requires).

3. It receives its nutrition from the blood; the healthier, therefore, the blood, the more complete the nutrition. There must be, then, a direct rela-

tion between the supply and healthy quality of the blood sent to a muscle and its power.

4. A supply of pure air is of importance in keeping up the healthy condition of a muscle in man.

5. The law of reaction on a stimulant is the reverse of the law of contractility. That is to say—*the stronger the muscle, the more firmly it will contract; the weaker the muscle, the less its contractile power, but the greater its irritability or tendency to contract.*

A stimulus which scarcely affects a strong muscle will produce spasm or cramp in a weakly one.

This, which is *the most important of all the laws which govern muscular action*, richly deserves every embellishment that experience can heap upon it.

It would be easy to show that it is not the strong-limbed, firm-fleshed child of the country which is the most frequent victim to convulsive disease; but that the mortality from this cause is greatest amongst the puny, weak, soft-fleshed, ill-fed denizens of our crowded courts and narrow alleys.

It is easy to show why, when fed with colocynth, calomel, and Epsom salts, and a diet that would suit a juvenile Brahmin, the sufferer from chorea continues ill for weeks and months, and even ultimately dies; while, on a generous and tonic treatment, he or she recovers rapidly. *With increased muscular power comes less muscular irritability.*

If we turn to the epileptic, we find the same law carried out; the feebler the muscular system the more severe and frequent the fits.

How often do we find a child, ill with convulsions, recover immediately on being taken to a pure air, where its blood is duly oxygenated, and relapse again the day he returns to town.

Tempting as this subject is, we must not pursue it, but continue the special subject of our paper.

If it be true that muscular action is exhaustive, it necessarily follows that any muscle which has been severely tried is *pro tanto* in a weakened condition, until it has had a period of repose, and an adequate supply of nutrition; it follows that if, in addition to this natural exhaustion, any depressing drugs are used, and nourishing food denied, the muscle will be more and more exhausted.

With increased exhaustion comes greater irritability. *Great muscular irritability must then be considered as being caused by, and dependant upon, great general and local debility, and demands, for its cure, a generous diet, tonic medicines, and pure air.*

The predisposing causes, then, of the muscular affections we have spoken of, are *a want of tone in the system, and a diminished strength in the muscles.* In these cases we find plenty of other proofs of debility, a quick, weak, or irritable pulse; a tendency to sigh frequently, a disposition to cry on the slightest occasion, a difficulty in restraining laughter, snoring during sleep, with heaviness on

awaking, giddiness on turning out of bed, yawning while at the toilette, &c.; anorexia, or irregularity in appetite or digestion, torpid bowels, lithatic or phosphatic urine, which speedily becomes ammoniacal, foul breath, bad taste in the mouth, headache, languor and lassitude during the day, and perhaps nervous excitement at night. If the patient be a female, there is almost sure to be, if she have arrived at the age of puberty, some uterine disorder added to the other symptoms.* Yet,

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* It is this which has, for so long a period, kept the Profession on the wrong scent. The reasoning of the majority of writers seems to be something like this:—Hysteria and hysterical affections are more common in women than in men; women have an uterus and men have none; women are more frequently affected by hysteria after the age of puberty than before, and, when they have hysteria, the doctor can find, in three cases out of seven, something wrong with the catamenia—in one case out of seven, an ulcer on the os uteri—in another, engorgement—and in the other two, although he can find nothing wrong, he concludes that it is only because he is not clever enough!! As long as there is an uterine affection, it matters little to such reasoners what its real nature is! whether ulcer, congestion, leucorrhœa, menorrhagia, dysmenorrhœa, or chlorosis; whether the discharge is too profuse or too scanty; whether the woman is a virgin or a wife. If there are hysterical symptoms, the womb has produced them! The proof is irrefragable, for if you cure the uterus you cure the other symptoms! Every now and then it is true that hysteria occurs in the male sex, and in the female who has never menstruated, and possibly has no womb; but these exceptions are too few and too insignificant to upset the beautiful uterine theory! and the womb is still to be the organ blamed for everything, although it may only be suffering in common with all others in the body. By-and-by, we may expect to have a theory that the beard and whiskers are the cause of gout! We know that men have gout far more frequently than women; that these have no whiskers; that men rarely have it until after the beard has begun to grow; that those of the male sex who never have beards have gout as rarely as females; and that, when gout is not inherited, it does not come on until the whiskers have begun to grow grey, indicating that they are not as

as a general rule, the severity of the muscular pain is so great, that it alone engrosses the patient's feelings, and the practitioner too often prescribes for it, without considering the totality of the symptoms and their significance.

Guided by the light of these principles, we can thus see our way through many a path that once was dark, and elicit a definite principle where all before was empiricism. We see why chorea is not relieved by a diet of rhubarb and magnesia; why leeches so often kill, and so rarely, if ever, cure the patient in infantile convulsions; why hysteric spasms are so common in the weak, and so rare in the strong woman; and why excessive drinking, "all sack and no bread," produces a trembling hand and shaky muscles.

We can understand how it is that a growing—that is to say (for the two words are in this respect practically synonymous), a weakly—child has "growing pains" (*i. e.*, muscular aches); why it is that palpitation always accompanies debility, and prostration is marked by an irregular pulse.*

In speaking thus we must guard ourselves from

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young as they used to be! And when it is farther urged, that the first paroxysm often comes on after a debauch in which the beard has been plentifully manured by wine or porter, the train of argument may be considered complete!

* As palpitation of the heart is a constant sign in spinal irritation, we shall take a future opportunity of explaining its phenomena.

the imputation that we are forgetting the influence of the nervous system in the production of spasms. All we wish to urge is that, *cæteris paribus*, a weakly muscle is more excitable than a strong one. To consider the nervous stimuli, in obedience to which the muscles contract, would be quite foreign to our present purpose.*

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* I have at present under my care an elderly lady who has suffered much from muscular pains. She was originally attacked with diarrhœa, which confined her to bed. This left behind it excessive irritability of the rectum and bladder, with discharge of bloody mucus. The "calls" were so frequent and imperious that she had to start out of bed every half hour to go to the night-chair. In two days after this there was pain and tenderness over the whole abdomen, which was especially severe at the insertions of "rectus and oblique." In two days more, intense pain in the calf of both legs came on whenever she left the bed; it was referred to the origin of the "solœus," and the part was tender on pressure. This was relieved by strapping from the toes to the knee. The abdominal pain was not relieved by anything I could suggest. The irritation was at last subdued, and five days elapsed without the bowels being moved; during this period the abdominal tenderness, &c., disappeared. The bowels were then naturally opened, and there was for thirty-six hours a partial diarrhœa. The patient persisted in using the night-chair instead of a bed-pan, and the exertion required in getting in and out of bed, and sitting up so often, brought back the abdominal pain. The diarrhœa again subsiding, this gave way.

The strapping appeared to prevent a recurrence of the pain in the calf of the leg. I am also attending a lady four months pregnant, in whom it was supposed that symptoms of peritonitis had set in, from the severe pain complained of in the abdomen, and the extreme tenderness on pressure. The pain came on after the action of a purgative, and was kept up by straining to micturate. The debility was extreme. A careful investigation proved it to be a case of muscular soreness, analogous to that of Mrs. L., p. 65.

I scarcely need add, that the attention of the practitioner ought always to be called to the possibility of the abdominal tenderness present in diarrhœa, &c., being due to the muscular exertion required in leaving bed, defæcating, sitting up, or micturating in the recumbent posture.

CHAPTER V.

Cramp — The circumstances under which it comes on — Case of Mrs. R., affected when support of "stays" withdrawn — Cramp simulates "tumour" cases — Occasional influence of galvanism in cramps — Severity of pain — Its comparatively transient character — Cases.

We have hitherto spoken chiefly of muscular aching pain, which is relieved by suspension of action. We now come to speak of cramp, and the circumstances under which it comes on. We have already given some cases, in which it accompanied other muscular pains; we will now give a few, in which it was the prominent symptom. The most remarkable I have met with, was in Mrs. L., whose case I have before given. Three years ago she was the subject of a severe accident, which bruised the back considerably, and materially debilitated its muscles. One morning, shortly afterwards, as she was stooping forward, to arrange her hair, the head bended on the chest, and both hands at the back of the head, a painful cramp seized the muscles, and in that condition she remained for three days, in great suffering.*

* I have since met with another instance where cramp has seized a lady while arranging the back hair. In this case the patient was a school-girl, and the suffering was intense and prolonged.

The following cases illustrate the exciting causes of cramp:—

Mrs. R., æt. thirty-eight, a well-made, strong-looking woman, above the medium height, after two or three miscarriages, which had pulled her down considerably, was obliged to nurse a sick child on her knee for three days, during which time she never took her stays off, and never lay down. The child being out of danger, she took off her stays, and went to bed—*the artificial support of the corset being now taken away*, she felt excessively weakened and weary. At the first attempt to turn, the whole of the abdominal walls became the seat of cramp, one muscle after another taking up the spasm. The muscles of the back were affected in turn, and she spent a night of the utmost agony, which profuse inhalation of chloroform failed to relieve. There was a suspension of her sufferings when the stays were again put on, and a renewal of them on undressing. Her husband now consulted me, and I suggested the habitual use of an elastic belt, more frequent rest during the day, and as generous diet as possible; and, under this plan, the cramp almost immediately left her.

The next case shows the persistence of the crampy condition, when due care is not taken to improve the muscular tone. Some years ago, a middle-aged woman called upon me, with a homœopathic dispensary "paper" and a polite message from one of the doctors, that she had come to give me an opportunity of seeing a very interesting

case. She told me she had a tumour in the abdomen—the ticket indicated the same, and I learned that she had been under treatment for about eight months. On making percussion, however, on the abdomen, over her dress, I found it resonant everywhere, and I could make a tolerably deep thrust without meeting with resistance. When I expressed a doubt about there being a tumour, she made the remark, "That it was not always there." This gave me a clue, and after a lengthened inquiry, I elicited the following facts:—

The woman had a great deal of washing to do once a fortnight, or thereabouts, and used a high tub, over which she was then constantly stooping; the tumour occupied the position of the rectus abdominis, sometimes one segment, sometimes another—it was attended with pain, and seemed to double her up; stretching backwards, and strong pressure, gave it relief. Any heavy-day's work would bring it on. If she had been reduced by diarrhœa, or any other cause, it was always more severe and long continued; it was independent of the bowels, except that, if they were costive, the effort of defecation would bring it on. Its size was always the same, and its hardness considerable.

I could, under these circumstances, have no reasonable doubt, that the case was one of cramp in the rectus abdominis, produced by a debilitated condition of the muscle and too great an amount of work. The sequel I am unable to give.

The following case occurred in the Liverpool Infirmary during the time I was house-surgeon:—

A young woman was admitted, under one of the then physicians, with what was represented as a tumour in the abdomen. On making an examination, I found a swelling about the size of the palm of the hand, occupying the left hypochondriac region; it was elevated above the surrounding level, very firm, and painless to the touch, though the patient declared it hurt her when it first appeared. Percussion showed some dulness, but not much. I considered that it *was not* a tumour, but could not form a definite idea of *what it was*. She remained in the ward some six weeks, during which time no change was apparent, and she was then transferred to the surgeon's care. A blister was now applied, and the tumour left that spot; but another appeared on the opposite side, and again succumbed to a blister, and the so-called tumour travelled, successively, over every part of the fleshy walls of the abdomen; blisters pursued them unrelentingly, and at last the patient was cured. There could then be no doubt that the tumour was nothing more than cramp in isolated parts of the external oblique rectus, and probably other muscles.

About two years ago, a man, æt. twenty-four, entered the North Hospital, suffering acutely from cramp in the abdominal muscles, and occasionally in the arms and legs. He told us he had had a similar attack previously. He had been much

exposed to cold and privation. A variety of antispasmodics, sinapisms, &c., were tried without relief. On the third day, galvanism was adopted, and with such complete success that he went out next day cured.

Not long after, an Italian, æt. twenty-five, came in. From what I could make out, he was a seaman, and had suffered from abdominal pain for six weeks. He looked feeble, and had no appetite. The recti muscles were excessively irritable, any manipulation produced a painful contraction, and sitting up, or walking, gave rise to decided cramp, almost doubling him up. Rest, cod-oil, steel, and full diet, restored him in twelve days.

The sufferings from cramps are often very severe. I was once summoned in great haste to the Waterloo Hotel to see a gentleman, æt. about forty, whom I found in bed writhing in agony; he was half tipsy; could scarcely speak three words consecutively, from a fresh accession of cramp; the abdominal muscles were contracting and relaxing with amazing rapidity, and the appearance was as if some large ball was rolling about, bulging all parts successively. I could get no history. I recommended hot bags of scalded bran to be prepared and applied, and in the mean time strong friction to be used. The patient refused to take anything. I called next morning, and found him dressing, and quite well; but so apparently unconscious of ever having seen me before, and so indignant that I should have entered his room, that

I felt rather happy to make my escape without any farther explanation, and with nothing but my labour for my pains.

Mrs. C., æt. thirty, of great stoutness, after having been well for many years, consulted me for severe pain in the loins and left groin. She had previously been under my care for what was then considered atrophy or fatty degeneration of the heart; she had also had erysipelas of the face and head, followed by dropsy and albuminous urine, and during this last attack had complained much of the same kind of lumbar pain. She was apprehensive that disease of the kidney had returned,* and was naturally very anxious about herself. The pain in the groin I ascertained had come on suddenly in the evening, when she had been sitting up for some time teaching a child its lessons; it drew her downwards, was relieved by pressure, went off with a twitching sensation, and left her sore next day: it extended towards the ribs. The pain in the back came on while she was sitting up playing at whist, and was very acute, drawing her backwards; it was relieved by stretching to the other side. The urine was healthy. I found that she had been weaker than usual of late, from loss of appetite, and that she still, though feeling unable to do it with comfort, went through the same

* There is strong reason to believe that the pain in the back so frequently met with in renal disease is due entirely to a muscular cause (excepting, of course, cases of renal calculi, &c.), and indicates general debility rather than a specific alteration in the kidney.

amount of exertion as when she was strong. This was the origin of the suffering; wishing to keep down her size by continued exertion, she taxed her muscles beyond their strength, and they became irritable, cramped, and sore. Tonics and rest relieved her, and a knowledge of the cause of her symptoms took away all anxiety from her mind.

Mrs. G., æt. thirty-four, a publican's widow, above the medium height, but thin and pale, sent for me one evening for what she thought was an attack of pleurisy. She informed me that she had had pain in the right side for some days, which had been gradually increasing until it had been so severe as to prevent her sleeping. The night before she had been awaked by it, and was unable to find a sufficiently easy posture to sleep again. The pulse was very weak, her voice was feeble, the skin perfectly cool, and there were no physical signs of inflammation. She had had a similar attack ten years previously, for which she had been bled and confined to bed for a fortnight. I ascertained that the pain came on towards evening, gradually increasing in severity; that when severe it was twitching or pulsating; that it was always relieved by rest; that it extended to the abdominal parietes, and to the groin, and to the "latissimus dorsi" posteriorly. I found that she had been greatly harassed by having to attend both to her family and "the bar;" that she had lost all appetite, and was almost living upon tea and muffins; that she had been "unwell" rather profusely, and that

when the pain was present it was increased *by using the beer engine.* There was no difficulty in recognising the milder pain as muscular, the severe pain, as cramp in the intercostal muscles. More frequent rest was prescribed, with tonics and generous diet; but some time elapsed ere she was strong enough to be free from pain and fatigue.

In all cases where we meet with cramp in the extremities it is necessary to make particular inquiries as to whether it is due to a muscular or a nervous cause.

R. H., æt. forty-three, cook, entered the Northern Hospital, with a painful swelling in the right leg; it was simply cramp in the calf, arising from too much standing; she was weak, but otherwise healthy. Rest in bed for a few days, and a few doses of steel enabled her to go out cured.

Miss D., a tall, overgrown young lady, æt. seventeen, consulted me, through a friend, respecting severe cramp she suffered in the calf of the leg and in the thigh. The nervous system was healthy, and all the functions correct; but she was a great walker, very active, and fond of standing instead of sitting. I recommended steel and quiet, and in a fortnight she ceased to complain. It is worthy of calling attention here to the fact we elsewhere allude to, that cramp is rarely ever so severe when it invades its victim during the waking hours as when it comes on during sleep.

CHAPTER VI.

Are the heart and involuntary muscles affected in a similar way to the voluntary? — The heart — Its muscular fibres those of animal life — Meaning of palpitation — Irregular action — Angina — Cause of sudden death in disease of heart — Principles of treatment discussed — The value, influence, and effect of digitalis — The intestines and uterus affected — Anteversion — Retroversion.

An inquiry of great interest now forces itself upon us, which is, do the heart and other muscles removed from the influence of volition, participate in the affections we have been describing?

Let us commence with the heart. We know that in its minute structure it resembles voluntary muscle, that its fibres are striped, and that many of them terminate in tendinous prolongations. Is it affected by debility in the same way as the muscles of the abdomen for example? We have seen that constitutional or local debility produces irregular action in a muscle, and that when excessive, cramp is the result. The irregularity of action in the voluntary muscle shows itself by pain and spasm; but as the heart cannot feel the former, we can only anticipate the latter. In reality this is the case. First, we know that the most common cause of palpitation is constitutional debility; we know, too, that an irregular pulse coming on at

the termination of an illness is looked upon as a proof that exhaustion has reached the heart; we find this irregularity cease under the influence of stimulants, and if the patient regains strength it does not return. Still farther, we find that in the debilitated we have the heart beating regularly enough as long as it has only its ordinary work to do; but as soon as a small additional labour is imposed upon it, as in fast walking, going up stairs, &c., its action at once becomes irregular, its contractions are strong and impetuous, and sometimes for a time terminate altogether, producing faintness. So generally now is this fact understood, that it only remains for us to recal to recollection the law,—"The feebler a muscle, the greater its irritability"—to gain for it an unhesitating assent.

It has long appeared to me that it is of the utmost importance to bear this law in mind in cases of organic disease of the heart, and especially of the valves. It is impossible to be long in practice without remarking the fact that a great number of persons die suddenly from disease of the heart—struck down in an instant—while others die a death of lingering pain. It is clear that there must be some reason for this which we ought to discover. In our inquiries we must necessarily include angina pectoris, a complaint characterized by the suddenness of the attack. We find the following facts to guide us in our judgment:—

1. Individuals may have valvular or other disease of the heart, and yet be unconscious of any inconvenience from it.

2. They may live many years in this condition.

3. They may have symptoms of cardiac disease, recover from them, and again continue a long period unaffected.

4. In those cases where people live comfortably with valvular disease, there is almost always hypertrophy.

5. Hypertrophy signifies an increase of power to make up for loss.

6. The causes that determine a paroxysm of cardiac disease, are—

a. An excessive action of the organ itself;

b. Something which diminishes the power of the system—*e.g.*, diarrhœa, loss of blood, loss of appetite, anxiety of mind, &c.;

and both of these may be included in the terms "local and general debility."

7. The plan of treatment most successful in cardiac disease is one which restores the heart to its usual tone—

a. By diminishing the resistance it has to overcome and the work it has to do;

b. By increasing its power through the constitution generally.

8. The spasm in angina pectoris is produced by unusual exertion. These considerations induce us to believe—

a. That as long as the constitution is sound, and the muscular system is in good condition, that disease of the heart may be compatible with tolerable health.

b. That when the heart is diseased, and the person debilitated, death may be sudden, or otherwise, according to the work the heart has to do: where the heart is much enfeebled, the task of driving the blood to the head in an erect posture may be too much for its powers.

c. That the proper treatment is rest and quiet, as far as possible, the removal of obstructions, and the administration of such tonics as are available.* In a great number of instances I have found that rest and adequate nutrition alone suffice for (relative) cure.

The other involuntary muscles, such as the sto-

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* Digitalis is a favourite remedy in disease of the heart. It is a very depressing drug, and can only be judiciously employed when the patient is quiet and in the recumbent posture. If used in full doses while the patient goes about as usual, it produces faintness, irregularity of the heart's action, and frequently sudden death (from spasm of the ventricles?). I have known calomel and opium, given for endocarditis (in rheumatic fever), produce great faintness and irregularity of the heart's action, which went off on the administration of brandy and the suspension of the drug. They returned when the mercury was again employed, and went off finally when it was abandoned.

I may also remind my readers of Mr. Pearson's cases of mercurial erethism, in which it is evident that the drug had produced intense general debility, and where a sudden and violent exertion of the animal power, especially in the erect posture, was frequently fatal. Similar phenomena used to be common in scurvy. The most probable cause of death in these cases would be spasm of the ventricle, or what would have the same effect, an inability of the ventricle to overcome the

mach, small and large intestines, appear to suffer from debility much in the same way as the voluntary, with the exception of pain, which is seldom, if ever, present, except when there is spasm. The proofs of this are necessarily somewhat insufficient, inasmuch as it is difficult to separate the intestinal muscular system from the mucous membrane. Yet it is a generally received opinion that the weaker the individual, the greater is the tendency for any indigestible substance to produce cramp in the stomach or griping pain in the bowels.

We cannot say much about the uterus, but there is one point connected with it of great interest—*i.e.*, that whenever a pregnant woman is jaded by fatigue, or weakened by diarrhœa, &c., the motions of the fœtus become more lively. This results evidently not from increased vigour in the infant, but from increased irritability of its muscles,—the effect of a transient want of tone.

It is a matter for speculation whether the uterus, in an unimpregnated condition, may or may not be the subject of temporary, or more or less persistent, spasm. But when we consider the symp-

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weight of a column of blood. It is surprising, when the patient is in a state of extreme debility, how very slight an exertion proves too much for the heart to overcome. Sitting upright in bed, adjusting the bed linen, turning round in bed, and even talking for a long duration, will sometimes be enough to produce very severe dyspnœa and palpitation, or a fatal syncope.

toms of "irritable uterus" described by Gooch and Churchill, and then refer to the causes assigned for the complaint, it seems quite as rational to assign a muscular origin to the pains, &c., as a nervous one.

On mentioning this subject to my friend, Mr. Grimsdale (who has made for some years a special study of uterine disease), he informed me that he had long considered that the phenomena of retroversion and anteversion of the unimpregnated womb was due to irregular contraction of its walls. I have not been able to ascertain whether, in those persons who suffer from the disease, there is a condition of system likely to predispose to muscular irregularities.

I have met with four or five cases in which intense suffering has been produced from spasm or cramp in the sphincter ani, and probably in the rectum,—in all there has been some direct cause of irritation; but as the same causes are in operation more or less in the majority of individuals, and continued to be in operation in the cases named after the cure was effected, we cannot consider that those alone produced the complaint. All the patients I refer to were greatly "out of condition," and were improved by a tonic plan, combined with opiates, &c., applied to the bowels and external parts.

CHAPTER VII.

The plan of treatment proposed — Artificial support — General tonics — Sedatives, general and local — Case of laryngismus stridulus cured by the latter — Galvanism — Exercise — Its value discussed — The necessity for pure air — Local depletion — Its doubtful value.

The remarks we have already made are sufficient to indicate the plan of treatment to be generally adopted in all these painful muscular affections.

1. For immediate relief the muscles must have rest or some artificial support, such as a bandage, elastic or otherwise, strapping, and the like.

2. For a permanent cure the whole system must be strengthened; and where it agrees there is no medicine which fulfils this indication like cod-liver oil, with or without tincture of iron in full doses.

3. Where the cramps are severe, morphia internally and externally is of the greatest benefit.

The most interesting example I can give of the value of this remedy is the following:—

I was called in consultation during May last to see a child who was suffering severely from convulsions. I found that it was one of twins, and that the two had been nursed by the same woman; that they had often suffered from flatulence; that the motions had been intolerably fetid, and that

this symptom was always worse whenever the nurse was unwell. They were eight months old; no teeth were near; they had been weaned a few days at the time I saw them; one was pretty well, but whooped at times as in hooping-cough; the other child was large, pallid, and lay on its back with the eyes half open, but did not scream or show any marked symptoms of disease of the head. The head was, however, of large size, and the anterior fontanelle projecting. Ten or twelve convulsions occurred daily, and they seemed to be gaining ground. Prior to my seeing her the treatment had been directed to improving the secretions, and giving an adequate amount of digestible food; the secretions had come right, but the symptoms remained unabated. During our visit we witnessed a fit, and it was clear that it was "laryngismus stridulus"* the child was suffering from, and that complete closure of the glottis took place for a few seconds. The treatment was not materially altered, but a solution of morphia (a grain to the ounce) was directed to be applied as water-dressing to the throat, and kept on pretty constantly. The child was relieved within half an hour of the first application, and had no more convulsions; it was subsequently applied in the same way to the other, and was equally successful in preventing the whoops. A few days sufficed to prove that the children had not caught hooping-cough;

* *I.e.*, cramp or spasm of laryngeal muscles.

and the good diet used soon put the parents out of anxiety.*

Forcible extension of the affected muscles gives almost immediate relief if the cramp is recent.

4. Galvanism† is sometimes of service in restoring "tone;" friction does little good; shampooing relieves, but rarely cures; strychnine is too slow in its operation to be trusted to.

5. Exercise is of no use unless combined with fresh air, generous diet, and such medicines as tend to improve the digestive powers. For though

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* While on this subject I may add, that I have known both laryngismus stridulus and general convulsions, of an extremely formidable nature, come on in young infants and children from beef-tea, meat-gravy, and even from the single yolk of an egg. In some instances the convulsions have been fatal. I have met with two cases of epileptic seizures coming on in patients (adult males) who had been too well-fed after surgical operations. A cessation of the diet was followed by a cessation of the fits, and a return to the good living by a return of the convulsions. In none of the cases was there any predisposition to the complaint. I was reminded of these facts by an observation I elicited from the mother of the little child whose case is detailed above. The twin sister of the patient saw some beef-tea brought for an elder brother, and insisted on having some; she took a good drink, and in a quarter of an hour a severe attack of general convulsions came on!—the only one she had! It would be out of place to pursue the subject farther.

† I have in the hospital had, on three occasions, to resort to a series of galvanic shocks to restore the tone of the affected muscles, when other means have failed. The most striking one was that of a servant who suffered from cramps in the abdominal walls. Rest in bed, opiates, tonics, friction, morphia locally applied, &c., were adopted without any abatement of the symptoms. The first application of galvanic shocks was followed by relief, and in three days she was free from spasm. At the same period I had another young patient, who had cramps in the back from excessive labour as a washerwoman. These had to be treated with galvanism ere they gave way. I have already alluded to a third.

exercise improves the muscles in the country, yet it commonly debilitates in a town like Liverpool.

6. Local depletion, blisters, or sinapisms, very rarely if ever give relief; if they do it is only temporary, and the next attack is more severe; the exception is when the spasmodic condition is permanent.

SPINAL DISORDERS

AND

OTHER FUNCTIONAL DISEASES OF THE NERVOUS SYSTEM

EXPLAINED.

Part the Second.

CHAPTER VIII.

Spinal disorders — Their nature, as defined by recent writers: as Dr. Copland, Dr. Griffin, Mr. Teale, Dr. Brown — Similarity of the symptoms described by them to those we have described and ascribed to another source — Cases quoted — Duration of symptoms — Days, months, or years — Exciting and predisposing causes — Treatment recommended.

Having now attempted to demonstrate that the muscles and their fibrous prolongations may be, and very frequently are, the seat of severe pain—having stated the characters by which those pains are distinguished, the circumstances under which they arise, the causes which determine their occurrence, and the individuals in whom they are most commonly met with—we now proceed to investigate the manner in which they bear upon that class of diseases known under the name of "Spinal Disorders," "Spinal Irritation," and "Functional Diseases of the Spine."

Before anything satisfactory can be said upon this topic, it will be necessary at the commence-

ment to examine into and define what are the phenomena we have to explain.

Lest I should be suspected of colouring the views of various authors, to suit my own convenience, I shall take the liberty of quoting their own words. I do this the more readily, as it was in consequence of the expressions they employed that I was enabled to seize the thread by which so many apparently discordant elements were joined together. Referring to Dr. Copland's "Dictionary," as being the best enunciator of the present state of our knowledge, we find the following definition:— "Pain in some part of the spinal column, generally accompanied by neuralgic or hysterical affections, unattended by fever or by other indications of inflammation, injury, or structural change of the vertebral column or its contents."

Further on, in the same article ("Functional Diseases of the Spine," vol. iii. p. 862) we read, "It is *characterized* by pain, increased by pressure on the spinous processes, in the chief seat of pain, and often accompanied by painful, anomalous, or hysterical symptoms in parts supplied with nerves from the seat of pain in the spine."

In speaking of the diagnosis, quoting from Dr. Griffin, he says:—

"The complaints, whatever they may be, are *usually relieved by the recumbent posture* (the italics are our own), *always increased by lifting weights, bending, stooping, or twisting the spine, and amongst*

the poor classes often consequent on the labour of carrying heavy loads, as in drawing water, carting manure, &c."

We find Dr. Griffin remarking ("Observations on Functional Affections of the Spinal Cord," p. 202), "Spinal tenderness is seldom or never met with in cases of pure inflammation..... The functional disorders connected with spinal tenderness are very often attended by some disturbance of the functions of the uterus, but they are by no means always so, since they occur in those who are regular in this respect—in girls long before the menstrual period of life, in women after it has passed, and, lastly, in men of nervous, susceptible habit, and in boys..... They are not necessarily dependent upon the disorder of any one organ, since they are found indifferently co-existing with disturbance of the digestive organs solely, or the uterus solely, or of the circulating or respiratory systems..... *Affections are occasionally met with, presenting all the marks of the hysteric character, and perfectly resembling cases described as those of spinal irritation, but unattended by spinal tenderness or any other direct indication of a morbid state of the cord.*"

In a treatise upon neuralgic diseases dependent upon "Irritation of the Spinal Marrow and Ganglia of the Sympathetic Nerve," by T. P. Teale, we read in the introduction, "The term neuralgia, which was originally employed to designate certain affections of nerves, attended with severe pain, has

of late, with great propriety, been extended . . . . to many other morbid affections of nerves, which are not characterized by pain, but by some other perverted state of their functions."

"The skin, for instance, may be the seat of every degree of exalted or diminished sensibility. . . . . The voluntary muscles may indicate in a variety of ways a morbid condition of the nerves with which they are supplied. They may be affected with weakness, spasms, tremors, or a variety of other disordered states, within the two extremes of convulsions and paralysis. . . . . The secretions may also undergo alterations both in quantity and quality, from a perverted agency of the nerves upon which they depend."*

Quoting from Dr. Brown's essay, he continues, "The spinal affection may perhaps be considered as the consequence of disease, but of its existence at the commencement any one may satisfy himself; and this circumstance, combined with the success which has attended the employment of topical applications to the tender parts about the vertebræ, appears to indicate that the *cause may (sic in orig.)* exist there." After a few more remarks, he gives a case in illustration:—"A young lady, æt. seventeen, had for more than a year complained of pain,

* The reader is particularly requested to keep these quotations in mind, as they will be referred to hereafter. They all unequivocally prove that muscular pains, and those arising from the stretching of fibrous tissue, have been completely ignored.

situated below the left mamma. This had been fixed to one spot during the whole time. It was a *gnawing, bruised feeling, increased materially by fatigue of any kind*, and after fatigue was attended with restlessness. *It was relieved by reclining in the horizontal posture. It was not sore to the touch.*" These very terms at once suggest the idea that the pain was muscular, and not in any sense neuralgic.

Again, "When the affection of the spinal nerves is situated in the lumbar vertebræ, it is apt to occasion severe pain in some part of the abdomen. I have seen it of a spasmodic nature, attended with flatulency, and *occupying apparently the arch of the colon; and in one case it seemed to be fixed in the caput coli*" (*i.e.*, transverse fibres of rectus, linea semilunaris).

Another case is given of pain below the mamma, "sometimes *extending down the side to the crest of the ilium*. It was accompanied with *pain at the top, and towards the back part of the left shoulder* (*i. e.*, insertion of trapezius), which she described *as a sensation of burning*, not interfering with the movements of the joint, but *so tender to the touch* that she could not rest on that side in bed," &c. These pains were clearly muscular.

Again, quoting Dr. Darwall, Mr. Teale remarks, "The following is the description of a form in which cerebral and spinal irritation is frequently exhibited, particularly in young females:—It is

attended by severe and constant pain in one or both hypochondria, extending to the shoulder and arm of the affected side, not always aggravated by pressure, and *ceasing immediately upon, or in a short time after lying down.* It is this pain of which the patients generally complain, *and it frequently endures for several years.*" After giving a number of symptoms, all referrible to debility, it is added, "Attending these affections are *pain in the side in the course of the descending colon, and difficulty of breathing, sometimes so great as to induce fear of organic mischief having taken place in the lungs*" (*i. e.*, muscular pains or cramp in the abdominal and intercostal muscles, stretching of the linea semilunaris).

Again, and the words are pregnant with meaning:*—

"Many individuals, as young females and mothers, are often accused of indolence when labouring under the state of *muscular debility* to which I have alluded. They have felt an unconquerable disinclination to exertion, &c., without even themselves being aware of the cause of this inertness."

Again, "These neuralgic diseases frequently assume *an intermitting form, the paroxysms generally occurring in the evening.*"† Pain in the insertion of the trapezius is described, though not sufficiently distinctive for quotation; and it is added in a note,

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* Vide Aphorism 5, p. 76. † Vide p. 20, Rule 2, ante.

"Vertigo frequently attends this neuralgia of the scalp, and is sometimes accompanied with tinnitus aurium" (a tolerably good sign of debility).

"Occasionally the pain is fixed at some point *near* the clavicle*, *scapula*, or *shoulder joint*, at *the insertion of the deltoid*, or *near the elbow*" (triceps extensor). "Females of sedentary habits appear to be particularly subject to these affections of the upper extremities; and it is not uncommon for them to complain of being scarcely able to feel the needle, when it is held in their fingers," &c. (a tolerably good proof of their great exhaustion, and that an overpowering amount of stitching, &c., has been the cause of their upper extremities being the chief seat of pain). "There is often a fixed pain in some part of the intercostal muscles . . . .† *and when this has existed a long time there is tenderness on pressing the part.* The pleurodynia, when it exists, is felt in the lower intercostal muscles; frequently there is a sensation of a cord tied round the waist; various pains, fixed and fugitive, are also felt in the parietes of the abdomen; the pain is frequently fixed in some portion of the rectus muscle, and not unfrequently in the oblique muscles and transversalis. The patients

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* Vide pp. 34–5–6, ante.

† It is particularly requested that this and similar observations will be borne in mind. It is quite evident from these remarks that a prolonged stretching of the fibrous portion of the muscles will ultimately produce tenderness on pressure.

also complain of instability in walking, their knees totter, and they feel scarcely able to support the weight of the body. In some cases *very considerable relief is found from recumbency*, the pain frequently being diminished as soon as the patient retires to bed, independently of any paroxysmal remission." This paragraph might almost have been dictated by ourselves, so pregnant is it with meaning when rightly interpreted.

Mr. Teale then records cases of spinal irritation characterized by pain in the occipital insertion of the trapezius, in the occipito-frontalis, in the temporal muscle, the mastoid origin of the sterno-mastoid. The following might, *mutatis mutandis*, have served for an illustration of pain and cramp in the muscular system:—Mrs. B., æt. fifty-three, mother of a large family, and long afflicted with rheumatism, now suffers from pain in the neck and head, pains about the clavicles, difficulty in moving the arms, which feel fixed at the shoulder-joints; the pain in the neck and between the shoulders is fixed and constant, being nearly the same both day and night; it is a little alleviated by supporting the back against a chair. There are also darting pains, extending from the cervical portion of the spine upwards over the occiput, and downwards across the neck and over each shoulder. Both arms are affected with aching pains over their whole extent, and with a sense of soreness on pressing or rubbing the skin, pricking sensations, cramps and

numbness in the fore-arms, hands, and fingers, frequent sudden twitching pains in the neck, arms, and trunk, occasional pains in the abdominal muscles, relieved by recumbency; appetite poor; there was tenderness of two lower cervical and six upper dorsal vertebræ. Leeches, a blister, and *recumbency* were enjoined, and in three weeks she was well.

Other cases are given. One headed "Intercostal Neuralgia" is worth extracting:—Mr. H., æt. forty, had been out of health for several months. He complained of a constant pain in the right side of the chest, occupying the intercostal spaces between the fourth and seventh ribs. These spaces were *tender on pressure*, and the pain was increased by deep inspiration. The intercostal muscles at this part were occasionally affected with spasm. His most intense sufferings, however, were caused by acute pains shooting through this part of the chest, extending to the back and darting thence towards the shoulder; these would sometimes dart through the left side also, and then the chest felt completely encircled by the pain. The dull, fixed pain was constant during the day, and became a little relieved by recumbency; there were anorexia, flatulence, and cough. Has had the pain in the side for ten years, off and on; has been leeched and blistered frequently, without relief. There was tenderness of third and fourth dorsal vertebræ, and he recollected that it had often been the seat of a *sensation of heat*, and of some uneasiness. The

treatment was local depletion, antiphlogistic remedies to the tender spine, and *recumbency—subsequently quinine.* The duration of treatment was a month; recovery was perfect.

I had marked many other cases and observations for quotation, but these will probably be deemed sufficient.

Dr. Copland remarks, respecting the duration and cause of functional spinal disorders:—"The duration of this disorder may be only three or four days, or as many months, or even years, according to the severity, causes, and treatment of individual cases. There is every reason to infer that the more obstinate cases, especially where the treatment has been judicious, are perpetuated, either by the continuance of their causes, or some chronic or recurring inflammatory condition of the spinal cord. . . . The most common exciting causes are excessive sexual intercourse, uterine disorder, sudden muscular efforts, &c. It is, too, most common in the nervous and lymphatic temperaments;" and, we may add, from other sources, in those who from any cause are weakly or delicate.

The treatment recommended as most judicious is "local bleeding by a few leeches, or cupping, occasional blisters, liniments, &c., applied to the spine about the tender spot, medication of the uterus where necessary, chalybeates where the neuralgic affections predominate, *and in severe cases a general tonic and restorative plan of diet,*" &c.

Such is a short epitome of the views held by many distinguished authors and practitioners on the subject of functional disorders of the spinal cord. Those who have done me the honour to follow my observations thus far, will not fail in recognising in the prominent symptoms all the characters I have assigned to affections of the muscular system; they will readily recognise, under the word neuralgia, the pain due to overstretching of the fibrous element of the muscles; and in the twitching spasms, the convulsive movement so common when these organs are in action after fatigue, or when the body generally is weak.

It may, however, be readily understood that a simple similarity of symptoms is not sufficient to establish so important a change in medical belief, as that spinal disorders are almost entirely independent of the nerves;* it will therefore be necessary to address ourselves to a more cogent line of argument.

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* I have hitherto assumed that the pain in the tendinous or fibrous portions of muscles, which is produced by stretching, is to a great extent independent of the nerves. By some this may be considered a physiological heresy. The subject is too long for discussion here, and I shall not enter upon it. It will be quite sufficient for all practical purposes if it be conceded that the pain arising from the stretching of a fascia, or other fibrous structure, *is essentially distinct and different from the pain of tic-douloureux*, or other *genuine neuralgia*. Different in its cause, different in its history, and different as regards the treatment required for its cure.

CHAPTER IX.

General sketch of the proposed explanation — 1. What spinal tenderness is not — 2. What it is — 3. True explanation of the phenomena — 4. Treatment deduced — The tenderness no proof of organic spinal disease, either in the bones or in the spinal cord — Arguments — Its connexion with hysteria — What hysteria is not — What it is.

The main points we have to explain are the spinal tenderness, the occurrence of certain symptoms when the tender spot is touched, the occurrence of similar symptoms when there is no spinal tenderness, and the bond of union that joins spinal disorders to hysteria.

Bearing in mind that spinal tenderness has been, and still is considered as the chief and characteristic symptom of functional disease of the spine, we will consider it first, and we shall most probably find that, in explaining it, the explanation of the other phenomena will naturally arise.

I propose to consider—1. What spinal tenderness is not; 2. What it is; 3. To show how the various symptoms attributed to it may be explained on a strictly physiological basis, quoting and annotating a severe case from Mr. Griffin's book; 4. To demonstrate the plan of treatment necessarily deduced from the new considerations, and to show that this

is the only one which has hitherto commanded the confidence of the medical profession, or rather the one which has been successful when all other things had failed.

1. What spinal tenderness is not. Our task here is lightened by the fact that those systematic writers who have made it their study, frankly allow that the tenderness is no proof of real disease.

It is not due to any inflammatory affection of the vertebræ themselves. Its invasion is too sudden, its duration too fleeting, its seat far too migratory, and the pain on pressure far too severe to allow us to believe that it has anything in common with genuine disease of bone. It is not due to inflammation, congestion, or other affection of the spinal cord. We conclude this—(1.) Because the pain is superficial, and confined almost exclusively to the spinous processes of the vertebræ; (2.) Because the spinal column is so strong, the arch so formed, the length of the spinous process so considerable, the cord so cushioned in fat, that no pressure on the spinous process with the finger could produce *any effect* on the cord or its membranes.

It is not due to caries of the spine; for we know from experience that when real disease in the bones does exist, it is neither attended with the signs of spinal irritation or tenderness externally.

It is not due to conjoint inflammation of the canal and its contents; for where these exist, though pain is the rule, tenderness on pressure is the ex-

ception; and in many instances where the inflammation has been excessive, the tenderness has been insignificant. In these instances, too, we do find, as Dr. Copland remarks, "that the motions of the spine, by perpetuating and aggravating the inflammation of the spinous membrane covering the bones, cause thickening or swelling of it," &c., but in spinal irritation these motions of the body have no such result.

Again, it is to be remarked that the spinal tenderness, superficial as it is, is not accompanied by redness, heat, or swelling (the *sensation* of heat spoken of by the patient is altogether different from genuine increase in temperature); the pain, when it exists, is hot and aching, not throbbing, &c., and local bleeding unaccompanied by rest is of no service.

But perhaps the best arguments we can make use of are the statements of the authors we have quoted, "that we may have spinal tenderness without any marks of spinal irritation, and symptoms of spinal irritation without spinal tenderness." Nothing could more emphatically prove that the various spasmodic and neuralgic phenomena spoken of, do not depend upon "a peculiar condition of some portion of the spine."

There are, however, those who hold that spinal tenderness and its concomitant symptoms are nothing more than signs of hysteria. Ere we can combat this idea, we must form some definite notion

of what hysteria is. Hysteria is not a disease intended by nature to include every curious symptom in the female which we are not able definitely to explain; nor can we allow ourselves, without great detriment to our mental powers, to attribute every pain, spasm, or ache which occurs in a delicate virgin to something wrong in her womb, depraved in her mind, or faulty in her education. Hysteria, as a word, ought to be restricted to that congeries of symptoms which betoken a peculiar condition of the system generally, and of the nervous system in particular; and as soon as any symptom once supposed to be hysterical can be explained without any special reference to the nerves it ought to be removed from that congeries. Whether we can remove spinal tenderness in that manner it remains now to be discussed. We have already demonstrated that many spasmodic and painful affections, once considered hysterical, and still spoken of as such by the vast majority of practitioners, are due, in reality, to over-exertion of certain sets of muscles, and have no more connexion (necessarily) with the uterus in the female than they have with the whiskers of the male! and we hope to show that spinal tenderness itself is nothing more than the result of over-exertion of those very muscles, whose aches and pains we have already described in their more moveable insertions.

CHAPTER X.

What spinal tenderness is — Anatomical relations of the spinous processes — They form the starting-point for almost every muscle of the back, and, to a great extent, of the trunk, head, and extremities — Examples — Strain upon the more moveable insertions of muscles produces pain and tenderness on pressure — It may do so equally on the more fixed insertion — Reason why the cause of spinal tenderness may be traced in some and ignored in others — Why the symptoms of spinal irritation may be present without spinal tenderness, and *vice versâ* — Why pressure on certain regions produces apparently definite symptoms — Effect of the examination on the patient's equilibrium — Recapitulation.

We proceed now to examine what spinal tenderness is. We inquire—

First, into the anatomical relations of the spinous processes of the vertebræ.

Secondly, whether there is anything in those relations which will explain the pain.

When we rake up our reminiscences of the dissecting-room, and refresh our memories with any work on anatomy, we find that the chief, if not the sole use of the spinous processes is *for the insertion of muscles*. The spine forms the *point d'appui* for nearly every muscle in the body. Is the head to be kept erect, the muscle springs from the spine; are the scapulæ to be drawn back, the arm to be raised, the shoulder to be moved, the muscles by which the operation is effected have the spinous process for their "stand-point." Is

the body to be kept erect or to be turned, still the muscles use the spine for their centre of operations. Are the thighs to be raised by the psoas, the antagonistic muscles on the other side the vertebræ must be brought into operation, that the spine may be fixed (if not, the body would be bent on the thighs). In fine, *there is scarcely a single motion of the body in which one or more muscles attached to the spinous processes are not brought into operation, and there is, therefore, throughout the whole day* (except during absolute rest) *a constant and unintermitting strain upon the fibres by which the muscles are inserted.*

We know, as a law of dynamics, that when a strain is laid on any cord, or similar material uniting a moveable to a fixed body, the same effect is produced in the one as in the other attachment, but that the heavier body will not move towards the light one with the same velocity as the light one goes to the heavy one. In the same way, when the shoulder is moved by the trapezius muscle, as great an effect is produced by the muscular strain on the origin as on the insertion of the muscle; but the shoulder is the most moveable—the lightest so to speak, and it moves while the back remains still. This can readily be demonstrated to the tyro, for he has only to fix the shoulder-joint artificially, and he may then move the trunk by the same muscle.

Whenever a muscle makes a feeble effort, as, for

example, in carrying a hat on the head, the strain is so small as to be imperceptible; but when it makes an unusual exertion, as in carrying a canful of water on the head, the stress is tremendous.

The strain, then, laid upon any muscle, *i.e.*, the force it exerts, is to be measured by the result produced.

But we have attempted to show that what was an ordinary and easily borne effort, when an individual was strong, became a severe and extraordinary exertion when he was weak.*

We have shown that a large amount of suffering, often of a very intense kind, arises from muscular strains in various parts of the body. We have shown, and might still farther illustrate the fact from histories of torture by the rack and by strappado, that the fibrous portions of the muscles are the chief seat of pain, and that after the strain has been long continued there is absolute tenderness on pressure.†

Is there, therefore, anything extraordinary in the assertion, that the spinous origins of various muscles are as frequently and as painfully affected as are their insertions elsewhere?

We have shown that the pain, either in the fleshy or the fibrous parts, has been in some cases produced by long-continued exertion of a debilitated muscle, in others by excessive exertion in

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* Vide pp. 14 and 15. † Vide notes, pp. 19, 21, and 74.

one of ordinary strength. We ought, therefore, to be able to recognise the same phenomena in cases of spinal tenderness. We ought to have one class of patients tracing their complaints to some powerful muscular exertion, and another unable to give any account of its origin; as they would not be aware that they had been doing anything out of the common way. I need only refer to what Dr. Copland says respecting the causes of spinal disorders (p. 101, *ante*) to show that this is practically the case.

It is farther to be noticed that we may have all the symptoms of spinal irritation without spinal tenderness. This is readily explained by the consideration that other muscles may have borne the chief brunt of the bodily exertion employed, while the spine, either from the use of well-made stays, or from the use of an arm-chair, has not been extraordinarily taxed. I am conscious that this suggestion alone is by no means sufficient to account for the fact alluded to; I shall, therefore, refer to this question again by-and-by. I merely call attention to it here in a "muscular" point of view.

Again, we may have spinal tenderness without any sign of spinal irritation: a fact which is explained by stating that it is most probable that in these instances the trapezius, latissimus dorsi, rhomboidei, splenii, and erector spinæ, have been more used than the muscles elsewhere. A glance at Fig. 4 will at once show the value of this explanation.

There is another thing to be explained, and one on which the authors of books on functional diseases of the spine lay great stress: viz., that certain symptoms attend pressure in the cervical region, certain others in the lower cervical and upper dorsal, others in the dorsal, lower dorsal and lumbar, and lumbar and sacral, &c.

The first answer we give is to deny the fact, not in the general sense, but in the particular one; that is to say, we assert that an invariable set of symptoms do not attend tenderness in any one spot, for the same set may be found where there is tenderness in the cervical, or dorsal, or lumbar, in all of them, and in none! That, as stated above, there may be tenderness, and no other marked symptoms, and *vice versâ*.

The next answer is, that it is natural, when the cervical region is the one in which the tenderness exists (which we attribute to excessive use of the trapezius, rhomboid, and splenii muscles), that the other (muscular) pains of which the patient complains, should be in the upper parts of the body, with which the head and arms are intimately connected in motion. Thus, for example, we anticipate that with pain referrible to the trapezius, we may have pain in the "occipito-frontalis," in the sterno-mastoid, in the splenius colli, and capitis, in the shoulder, in the pectorals, probably in the deltoid, in the serratus magnus, and in the abdominal muscles.

Is the tenderness in the dorsal region, the cause may be in the body itself, rather than in the extremities, and we shall have pain in the intercostals, the abdominal muscles, the diaphragm, the serratus magnus, &c.

Is the tenderness in the lumbar vertebræ, the cause may be presumed to be connected with the lower extremities; the patient probably has much stooping and rising, is fond of gardening, dancing, organ* or pianoforte playing, &c. The exertion required in all these exercises necessitates the lower part of the spine to be fixed, and this as certainly produces pain and tenderness at the insertion of the muscles into it, as we have pain at the pubic insertion of the rectus from frequent stooping.

It may still be objected, that when certain important symptoms, such as palpitation, pain arising

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* I have had numerous instances brought under my notice in which considerable suffering (of a muscular character) has arisen from excessive practice at the pianoforte, and can readily understand how organ-playing must be much more severe. The individual commonly sits upright on a stool, without the slightest artificial support (except the corset in women); both hands are in perpetual motion; the body is swayed from side to side, according to the exigencies of the tune and "time;" the legs are called into exertion to work the pedals; and as singing is often joined to playing, the muscles of ordinary and extraordinary respiration are forcibly occupied. The interest of the musician during the practice diverts her thoughts from herself; and it is not, usually, until she has long left the piano, and has begun to exercise herself in another manner, that she is conscious of pain, aching, or fatigue. In these cases, the presence of spinal tenderness is the rule, and it is generally in the cervical region.

with telegraphic rapidity, and shocks comparable only to those produced by powerful batteries, do arise instantly upon pressure on a tender spot, it must be conceded that there is a direct connexion between the cause (spinal tenderness or disorder) and effect.

To this mode of putting the argument, our answer differs little from that given before. In the first place, it is not true in the main, and when true, a different and far more satisfactory explanation may be given.

It is not true in the main; for out of every twenty cases of spinal irritation not more than one has any result follow from pressure upon the tender spot, except local pain. We find, also, both Teale and Griffin themselves laying great emphasis upon the fact that where the electric-like results do follow pressure on the tender vertebræ, *they follow equally from pressure on any other tender spot.*

That in these points we have not been guilty of misstatements, we quote the following from Dr. Griffin, p. 217, "With respect to the tenderness of the spine in diseases of irritation, we have been anxious to ascertain what symptoms might be considered as peculiarly belonging to any one portion of the cord; but in this we have found much difficulty, and have not had in fact a sufficient number of cases before us to draw absolute conclusions from." *Yet he had* 148 *in all!!*

"In examining the spine, we shall often find that the tenderness does not reach so high up or so low down as the symptoms would lead us to expect," p. 218.

"It happens that when great tenderness prevails at a particular part of the spine, pressure on which excites cough, or oppression, or distant pain, these symptoms may be equally brought on by pressure for some distance above or below the tender point."*

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* It would be almost impossible for any one who has not closely watched all the phenomena of muscular action, and the excessive irritability to which the muscles are sometimes brought, to seize the truth contained in this paragraph, and some others of a similar import—a truth evidently hitherto unrecognised. Let me ask my readers to request a medical friend to examine whether their spine is tender, and to note, *most closely and minutely*, the effect produced on the trunk and extremities by pressure upon the various parts of the spine. Supposing that the examination is made in any of the usual ways, either by direct pressure upon each spinous process, or by a thump on many at once, or by stroking the finger heavily and continuously over each, it will be found, whether the patient is sitting, standing, or lying when the examination is made, that pressure in the cervical region has a tendency to bring the head back or push the body forwards, and excite the trapezius, splenii, sterno-mastoid, &c.; in the dorsal region, to push the body forwards or to bring the shoulders back, and to irritate the trapezius, the rhomboids, the pectorals, the serratus magnus, and abdominal walls in the lumbar region; to bring the latissimus and longissimus dorsi, the quadratus lumborum, psoæ, rectus abdominis, obliqui, &c. &c., into action. After this examination, it will not be difficult to see that the results following pressure on the tender spine may be *simply the effect of the patient naturally moving in some way or shrinking from the painful infliction, a motion which calls into sudden operation muscles rendered peculiarly irritable from the effects of general debility.* It would be difficult to make any examination of the spine in which this source of fallacy would not have to be borne in mind. I may add, that it is only in cases of *extreme debility* that the electric-like results follow.

"Instances may even be met with of such extraordinary susceptibility, that pressure on any of the large nervous trunks, or any portion of the person which happens to be morbidly irritable, may excite or aggravate the same symptoms (as those produced by pressure on the spine). A case is detailed where pressure behind the trochanter, or the knee, excited distressing pain at the ensiform cartilage,* with a disposition to syncope!"

Supposing, however, that these explanations may not be satisfactory to every one, and wishing to heap up proofs of the truth of our position, we may add that the electric-like shocks produced by pressure on a tender vertebra may be simply due to the fact that the spot is tender, and the system in a peculiarly excitable condition. The practitioner is no stranger to the probability of such an occurrence. How often, for example, do we read of a breath, a footfall, a whisper exciting the most distressing paroxysms in hydrophobia! How common in tetanus is it for the spasms to be reinduced by a current of cold air, or by the faintest touch! When a frog has been dosed with strychnia, how it starts at a prick of his toes! Even man, when

* Does not this pain, evidently referrible to the insertion of the rectus abdominis, lead us to infer that, in making the pressure described, the body of the patient was involuntarily pushed forwards, thus suddenly irritating the excitable muscle. The disposition to syncope may have been from the upright posture, supposing, as seems probable, that it had been adopted during the examination; but we have not data enough to explain it thoroughly.

under the influence of the same drug, may have a spasmodic exacerbation, produced by a touch at any spot. Dr. Abercromby "relates the case of a lady who was subject for two years to convulsive action of the muscles of the back, and twitchings of the arms and legs. These were much increased by touching her, especially on *any part of the back*. After describing more extraordinary convulsions, &c., it is remarked "that if the head or neck were touched, the motions were increased to a most extraordinary degree of rapidity." (Quoted from Dr. Watson's "Practice of Physic.")

To recapitulate—

We believe that the vast majority of the symptoms considered the result of spinal irritation arise from over-exertion of one or more portions of the muscular system in debilitated subjects.

That the spinal tenderness has a similar origin;

That the other symptoms, commonly considered as *resulting from* spinal tenderness, are *concomitants only*, and referrible to a common cause.

It remains for us next to show the connexion between hysteria and spinal irritation.

We anticipate that it will be found in the constitutional debility which is common to both.

CHAPTER XI.

Why spinal irritation has been considered a symptom or phase of hysteria — Definition of hysteria, quoted from Dr. Copland — Constitutional debility the cause of hysterical phenomena — Constitutional debility defined — Consequences of constitutional debility — Law — The more debilitated the individual, the greater is the irritability of the nervous system — How irritability of the nervous system shows itself — Multifarious functions of the nervous system — Artificial division into mental, sensitive, motor, and organic functions — One or more of these may be affected — There may be rapid transitions from one to the other — Sometimes all may be affected — Over-action, a cause of exhaustion in muscle; may be so in nervous affections — Over-action in one part of nervous system is not always followed by symptoms referrible to that particular division.

Ere we attempt to demonstrate the connexion between spinal disorders and hysteria, let us turn to Dr. Copland (article Hysteria), and take the measure, as it were, of the latter—the disease we have to fit. Definition—"Nervous disorder, often assuming the most varied forms, but commonly presenting a paroxysmal character; the attacks usually commencing with a flow of *limpid urine*, with uneasiness or irregular *motions*, and rumbling noises in the left iliac region, or the sensation of a ball rising upwards to the throat, frequently attended by a feeling of suffocation, and sometimes with *convulsions*, chiefly affecting females from the period of puberty to the decline of life, *and principally those possessing great susceptibility of the nervous system.*" (The italics are our own.)

We continue the same article, and find that we have to account for "Altered sensibility or pain, of a *truly hysterical character* in the head;* *below the left mamma, or at the margin of the ribs;* in *the region of the stomach and spleen;* in *the course of the descending colon;* and *in the left iliac region; above the pubes;* in *various other parts of the abdomen*, or *in the abdomen generally;* in the region of *the kidneys, sometimes extending in the course of the ureters;* in one or more of the lower dorsal or lumbar vertebræ; in the sacrum,† *in the hip*, or knee-joint; in the pharynx and larynx; in one or both mammæ; or in *the region of the liver.*

Again, Dr. Copland remarks—

"Hysteria will give rise to and simulate various *spasmodic* affections—asthma, cough, hiccough, sneezing, dysphagia, colic, hydrophobia, trismus, opisthotonos, or pleurosthotonos." "It gives rise to various comatose, cataleptic, or soporific states." "It may simulate paralytic affections." "It may manifest itself chiefly by disorder of the *mental emotions* and faculties." Further quotations would

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* The author has placed in italics all those pains, &c., which he considers have a muscular origin. He must refer his readers to the article itself for corroborative proof that the view that he has taken of these pains is the only one which is consonant with facts.

† The pain in the sacrum is not strictly hysterical, whatever its proximate cause. It is common in males who have oxaluria, and involuntary discharge of semen, and in women who have leucorrhœa, or some disorder of the os uteri. It may exist without other symptoms of hysteria.

weary the attention of the reader, and divert him from the main question.

The connecting link between hysteria, muscular affections, and spinal irritation in general is, that there are in all cases, general and very readily recognised constitutional or acquired debility.* In hysteria the debility shows itself by disorder of the nervous system. In the other instances we have described, debility has shown itself by disorders of the muscular system.

We have already enunciated the law that—

"*The more debilitated the individual, the greater is the irritability of his muscular system.*" We now enunciate the corresponding one—"*The more debilitated the individual, the greater is the irritability of the nervous system.*"

To many this may seem a truism, but we entreat their attention while we try to develope the

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* I have so frequently used the words constitutional or acquired debility, that it is necessary, to prevent misunderstanding, to state the meaning I assign to them.

Constitutional debility is used to indicate the deficiency of strength in the system, rather than of strength in the will, the mind, or the muscles. The debility is inherited from one or both parents, and is necessarily inseparable from the strumous, scrofulous, tubercular, and gouty diatheses. In short, wherever there is hereditary disease, there must be constitutional debility, as disease cannot exist without the vital powers having been overcome. Constitutional debility is persistent through life. Acquired debility is more or less transient, according to its cause. It may be produced by bad air, poor diet, exhausting diseases, excessive discharges, loss of blood, loss of appetite, indigestion, depressing drugs, incessant mental or bodily labour, prolonged grief, mental excitement, loss of sleep, and any other circumstance, hygienic or otherwise, likely to deteriorate the vital powers.

important bearings it should have upon pathology and practice.

We may assume it as a medical axiom, *That when an organ is in a state of disease, the disorder shows itself in some modification of its special function—i.e.*, if the eye is diseased, sight is affected; if the ear, hearing; if the lungs, the breathing; if the heart, the circulation; the liver, the secretion of bile, &c. &c.

We have seen how when a muscle, whose special business is *contraction*, is disordered, spasms frequently ensue (it is out of our province to refer to paralysis, except when it occurs, as it sometimes does, from over-stretching or from very prolonged exercise).

But when the nervous system is diseased, in what way are we to anticipate that its functions will be affected?

The cerebro-spinal nervous system has not a simple function, like the heart, the stomach, the liver, kidneys, &c. On the contrary, its functions are at least fourfold.

1. It has to originate, direct, control, &c., thought, memory, the will, &c.

2. It has to appreciate impressions, special or otherwise, and interpret them to the mind as sensations.

3. It has to generate, use, or direct the application of that "something" which, when it reaches a muscle, compels it to contract.

4. It has an influence over the body generally, assisting or modifying in some way secretion, assimilation, growth, &c. &c.

To save time and circumlocution, we propose designating these different functions as—1. Mental; 2. Sensitive; 3. Muscular; 4. Organic.

Whenever the system generally is debilitated from any cause, any one or all of these functions may be affected. The affection, whatever it may be, shows itself first in one, then in another; in two simultaneously or alternately, and in every variety of combination.*

It is this which has given to hysteria the designation of the Protæan malady. Yet when we look upon its symptoms in this light, it loses this character, and becomes amenable to the same laws which guide us in our recognition of diseases of other organs.

In our inquiry into the causes of muscular weakness, we were able to trace *over-action* as one; and

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* This observation is one of extreme interest to the philosophical physician, and I doubt not that many of my readers will be able to recal cases like the following:—M. C., æt. 25, had hysterical attacks, characterized chiefly by laughing, shouting, and crying, during a period of about ten months; by the treatment adopted, these were cured in three days, but (according to prophecy) they were followed by tic-douloureux. J. H. had fits of a convulsive nature, which were mistaken for epileptic. She came into hospital; their nature was ascertained; they were cured in a day, but the next day they were replaced by tic-douloureux. These are only very small illustrations of the Protæan character of hysteria, and the rapidity with which its symptoms may be transferred from one portion of the nervous system to another.

in our remarks upon cramp, we showed that it was due to excessive previous exertion in a muscle as well as to general debility.*

We ought, then, to be prepared for the fact that excessive nervous action (whatever its nature) will produce nervous exhaustion.

Theory might lead us to infer that excessive mental action, or emotion, would produce excitability of mind, but experience shows us that it may produce any or all of the following—viz., Insanity, spectral or aural illusions, tic, chorea, convulsions, catalepsy, coma, urination, vomiting, diarrhœa, or jaundice; theory might say that intense sensitive emotion, whether arising from the eye, the ear, or other parts, should produce some disorder of sensibility; experience tells us that it disorders the mind. Whether, then, we have exhaustion of the nervous system, from general debility or from over-action, it shows itself by disorder of one or other of the nervous functions, or of all.

Let us see how the remarks of modern authorities bear us out in this view, as regards the nervous system.

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* Vide p. 12.

CHAPTER XII.

Insanity an affection of the mental nervous system — Its alliances — Its causes: shipwreck, hunger, misery — Experience drawn from asylums — Influence of generous diet on the insane — Dr. Conolly's opinion of cod-liver oil, &c. — Mania not a disease of strength — Sensitive nervous system — Its susceptibility increased by exhaustion — Effect of noise, light, strong odours, &c., on those weakened by losses of blood — Sensibility of the skin in hysteria explained — Cases — Neuralgia — Its causes — Its proper treatment — Muscular nervous system—Cause of tetanus — Fatal case of idiopathic tetanus — Epilepsy — May be produced by bleeding or excessive debility — Case of Mrs. T. — Infantile convulsions — Its chief victims — Its causes — The danger — The cure — Chorea — Its cause — Its victims — Their condition of health — The danger — The cure — Cases — Influence of a tonic plan of treatment — Influence of mental emotion on a weakened heart — Organic nervous system — Effects of debility on the milk — On digestion — Emotion produces vomiting — Question how far anxiety operates in the production of tubercle or cancer.

We commence with insanity, a disease showing itself principally in the mental nervous system, although we find it affecting, to a greater or less extent, both the sensitive, muscular, and organic, as is evidenced by the aural and ocular delusions, the catalepsy, the convulsive diseases, and the modified secretions so common in that complaint.

What are the common causes of insanity? Dr. Copland sums them up thus: "A certain conformation derived from parents, an original predispo-

sition not so derived, a state of the constitution gradually acquired, or arising out of the continued operation of causes *which deteriorate, or otherwise change, the organic, nervous, and vital powers.*" We turn to the accounts of shipwreck, and other terrible scenes, when human beings have been long subject to anxiety, labour, distress, cold, and starvation, and we find that most of those who succumb "go mad" ere they die, and that many of the survivors never recover their reason. The form of their insanity is various; sometimes there are optical delusions, at others a raving mania. We turn to the individuals who are the victims of insanity in our asylums, and we find that they are chiefly poor people who have long suffered privation. Misery and drink are the causes assigned for a full half of those attacked; others assign prolonged lactation, sexual excess, loss of rest, incessant toil, losses of blood, loss of health, &c. In the "Report of the Commissioners of Lunacy for 1844," p. 118, we read: "It is indeed evident that nothing can be effected without an ample supply of proper food, in the restoration of the patients from that state of *physical weakness* and *exhaustion* which is the condition of the majority among the inmates of pauper asylums.

"It is worthy of remark, that in Middlesex and Dorset Asylums the diet of the patients was some time since improved by an *increased allowance of food*, and that in both of these asylums *there was*

recorded after this alteration an increase in the number of recoveries."

We find Dr. Conolly, than whom few men have laboured harder, observed closer, or reasoned more philosophically, writing thus:—

"It is desirable to keep in view that the preternatural excitement of a patient affected with acute mania, his violent action, and his loud voice, *are not indications of strength*, and that the more violent the symptoms, the greater is the danger of sudden prostration and death. In young persons, maniacal symptoms are not unfrequently the first in the train of those belonging to pulmonary disease. In old persons, an outbreak of mania is often the mere precursor of general decline and death." (Conolly on the "Treatment of the Insane," pp. 69, 70.) Again, p. 76: "There will soon be accumulated, I believe, in many asylums, very singular proofs of the general benefit of a *tonic and nutritive plan of treatment*, in most of the forms of chronic insanity, and in all cases attended with debility, in consequence of the recent extensive introduction of cod-liver oil into practice." Again, pp. 77-8: "All practitioners in medicine, whose experience extends, as my own does, to more than thirty years, must have observed, even within that short period, a striking change in the extent to which ordinary means, formerly considered remediable and even indispensable, are employed. Large and frequent bleedings, once so common as almost to be

universal, are now wholly unknown. Violent purgative medicines, and the excessive employment of mercury, have been desisted from in all climates where scientific practice prevails." The "Medico-Chirurgical Review" remarks, in addition: "Many instances (of mania) have come to our knowledge, in which, to the best of our judgment, acute and once hopeful cases have been rendered the reverse by general bleeding, into which the surgeon has been misled probably by delusive appearances of plethora," &c.

From insanity we turn to a peculiar form of it, delirium tremens, in which we have both the mental, sensitive, and muscular nervous systems affected. We find that this is produced by debility, the debility commonly arising from deficiency of food and the abuse of ardent spirits; a fit is often determined by diarrhœa, loss of blood, an accident, &c. The danger is death from exhaustion; and the best treatment is, opiates to procure rest, combined with appropriate food and stimulants to support strength.

When we leave the mental for the sensitive nervous system, we see the same law hold good: "The greater the debility, the greater the irritability." We are all of us familiar with the fact, that when a person has suffered from an exhausting illness, from hæmorrhage, or other causes of debility, the sensibility becomes wonderfully exalted; one patient faints at a strong odour, another

cannot bear the light of day, or the common sounds that go on hourly in our working-day world. A woman, after menorrhagia or miscarriage, cannot endure the prattle of her children, once her greatest delight; she is sensible to a footfall, and can scarcely bear contact with her clothes. This extreme sensibility of the skin has long been known as a symptom of hysteria, and has commonly been considered an almost certain diagnostic mark. *Its true signification has been overlooked.* We have contented ourselves with establishing the diagnosis rather than investigating the connexion. How important does the sign become when we recognise in the preternatural irritability of the skin a proof of general and special debility.

The following cases are interesting specimens of this form of sensitive nervous irritability. The first I met with casually in conversation, the second occurred in my own practice:—

A lady in wealthy circumstances, not subject to any particular emotion, excitement, mental or bodily labour, passing her time, in fact, almost exclusively in bed or on the sofa, was the victim of most extraordinary sensitiveness of the skin; to such a degree did this extend, that a touch on any part of the body would produce paroxysms, which could only be compared to those resulting from a touch or current of air in hydrophobia. The very idea that she was going to be touched produced a fit of shuddering, as does sometimes the sound of

running water in canine madness. There was no exhausting disease, but the patient lived almost exclusively on tea and toast-and-water!—a diet certainly by no means sufficient to keep up the natural or vital powers. There was exhaustion from deficient supply, not from excessive demand.

M. I., æt. twenty-seven, of delicate appearance, came under my care for pain and tenderness of the whole of the back. She was a housemaid, had an easy place, and a kind mistress, who gave her every facility for relief. She was chlorotic, but there was no sign of organic uterine disease, or other depressing disorder. There was complete loss of appetite, the bowels were inclined to be costive, the pain was so severe she could not sleep, contact with her clothes was painful, and it required all her energies to go through the smallest exertion. The spine was exquisitely tender throughout its whole extent, there was soreness over the abdomen and chest to a limited degree, she had pain in the hypochondria, the epigastrium, the iliac regions, and in the pubis. Had cramps in the rectus, oblique, longissimus dorsi, &c.

My recommendations, which were strictly followed, were a belladonna plaster along the spine, morphia at night, rest for an hour or so in the afternoon, with steel, cod-oil, and generous living. The oil soon disagreed; the other remedies seemed powerless. The sensibility increased to such a degree that she could not "sleep a wink" day or

night. She was obliged at last to leave her place, and took lodgings with the full intention of taking care of herself. She abandoned all medicine, indulged in bed for the greatest part of the day, lived as well as her means would permit, and at the end of six weeks was perfectly recovered. As I did not attend her after she left her place, I can give no history of the gradual cessation of any special symptom. I can scarcely refrain from adding that, had she placed herself under the care of a homœopathist, she would have formed a most astonishing (though of course fallacious) proof of the value of the new over the old style of medicine.

When we consider the causes of those painful diseases of the nervous system, to which the word neuralgia ought specially to be confined, as "tic," "sciatica," "megrim," &c., complaints which so often baffle our best-directed efforts, and subsequently go away of themselves (resembling in this respect the fury of a maniac, which continues intense as long as he is coerced by gyves and other restraints, but goes off at once when he is placed alone and unshackled in a padded room), we find them to exist chiefly in local or general debility. Dr. Copland thus sums them up, vol. ii. p. 884: "*Chronic or prolonged debility, the exhaustion* consequent upon acute diseases (and influenza), prolonged or neglected dyspepsia, the puerperal states, exhausting discharges, prolonged or improper lactation, excessive venereal indul-

gences, anxiety of mind, menorrhagia, &c., are amongst the most influential of predisposing causes."

We see the same broad truth evinced in the influence of treatment upon these diseases. Whatever tends to keep up or increase debility keeps up or aggravates the pains: whatever tends to invigorate the system, such as quinine, steel, cod-oil, &c., has a direct tendency to cure them.

From diseases of the sensitive, we may pass to the muscular nervous system. We have already considered the muscles themselves as being rendered more irritable by debility: we have now to consider the nervous stimulant which impels them to contract, being rendered irregular, excessive, or deficient from the same cause. We have little that is satisfactory to say of tetanus, except that it is most common in those who, after having been exposed to great heat, exertion, and probably loss of blood, are exposed for a considerable period to severe cold. How potent is this cause, the following case of idiopathic tetanus will show:—

"Mrs. G., æt. thirty-eight, of nervous temperament, mother of seven children (the youngest of whom was twenty-two months old, *and still at the breast*), and residing in a crowded, unhealthy street, *lost her appetite* a fortnight ago, was *languid*, and suffered from *palpitation;* in a week *she had* "*flooding*" and faintness, was laid up a few days, and then resumed her domestic duties; on the 2nd of August went to rest on her bed in the afternoon,

and fell asleep with the window open, the left side of the neck being exposed to *a current of cold air* and the body exposed to the full influence of a powerful sun. She had giddiness on rising; on the next evening the neck was stiff; on the 4th all the signs of tetanus were well marked; and she expired on the evening of the 5th." (Sinclair, in No. I. of the "Liverpool Medico-Chirurgical Journal," p. 130.)

If we turn to epilepsy, we see the same fostering effect of debility on the growth and severity of the complaint. We find that patients may be bled into epilepsy; that it is the most severe in the poor, the ill-fed, and weakly; that it occasionally accompanies exhausting diseases; and that when it is dependent upon some organic cause in the brain, the number and severity of the fits depend upon the general health of the system.

The following case is useful as illustrating many of the points we have brought forward and some which we shall hereafter refer to:—

I was called in consultation to see Mrs. T., æt. thirty-eight, who was at the time insensible, and had just suffered from severe epileptic fits. She had been ailing a long time, and was supposed to be under the influence of lead. The most prominent symptoms were intense pain in the head, strabismus, partial loss of sight, daily bilious vomiting—the bile being of a bright grass-green,—pulse 84, skin cool and pale; at times she was suffi-

ciently well to sit up, but soon relapsed, becoming weaker on every occasion. A variety of treatment had been resorted to, including a blister to the nape, and aperients. The epileptic seizure came on after the administration of a turpentine enema (which was retained). The treatment now adopted was to abandon medicine, and support the system; as the stomach refused to retain food or stimuli, injections of beef-tea were given: in four days the patient returned to full consciousness. Morphia appeared now to relieve the headache; food was cautiously given, and everything seemed to go on well for a time; a relapse, however, ensued, attended with the same bilious vomiting; another, and another, and at last one with a slight return of the epilepsy, insensibility, and delirium. By a very close attention to the circumstances under which these came on, they were clearly traceable *to mental emotion* in a terribly debilitated frame, or to the exertion of talking for a short period to sympathising friends. Comparative seclusion was then adopted in the sick-room, for a week, and as generous a diet given as the stomach would bear, and from this time the patient steadily recovered, until she was perfectly restored. The headache and strabismus diminished in direct proportion to her gain of strength. The weak vision (due to dilatation of the pupil) went with the other symptoms, and the "biliousness" disappeared.

From epilepsy we pass on to infantile convul-

sions. Who are its chief victims? Those who inherit consumption, struma, or debility—the denizens of our crowded courts and alleys—the pale, puny, and ill-fed. They carry off those who have been weakened by diarrhœa or loss of blood. They are the bane of the town-infants; but rare amongst the families of the healthy, well-to-do peasantry. What is the danger? Death by exhaustion. What is the cure? Good air, good diet, comfortable condition. When does subsultus tendinum—a variety of convulsions—come on? When the patient is dying of weakness. What is its cure? Wine and other stimuli.

Again, in chorea and allied disorders; what is the most common cause? Excessive fright. And what is fear? The most depressing of all the mental emotions (people die of fright sometimes without any farther cause). What are the individuals it chiefly attacks? The weakly and delicate, whose flabby muscles give tolerable evidence of their want of tone. What is its cure? The most powerful tonics, the most digestible and generous food it is possible to employ. What is the danger? Death by exhaustion.

The two following cases are of great value in illustrating these points:—

M. A. R., æt. thirteen, was admitted into the Liverpool Infirmary, July 20, 1843, under the care of one of the then physicians; said she had always been well till she had been thrown violently

against a wall by her father a month ago; twitching came on the next day, and continued increasing in severity up to the time of her admission. The motions were excessive, and the laryngeal muscles were affected in common with others. As she had once passed worms, castor-oil was ordered, which operated unsatisfactorily, and calomel and jalap, with another dose of oil to follow, were prescribed. The jactitation was so incessant that she had no sleep, and the skin of the nates became excoriated. On the night of the 21st the motions ceased; she fell asleep about five o'clock of the morning of the 22nd, and was dead at seven. The post-mortem showed, as healthy a body as it was possible to examine. She had died of simple exhaustion.

M. J., æt. thirteen, was brought into my consulting-room one morning, August, 1847, in the arms of her mother. She was suffering so severely from chorea that she could not be retained upon the knee, and was utterly unable to walk. The history was similar to the last. (Dr. Todd had, however, in the meantime, published a case in which a tonic, &c., plan of treatment had been most conspicuously successful.) I recommended full doses of the tincture of iron, and as much egg and wine as the stomach would bear. In *three days* my patient walked into my room without a greater amount of "nervousness" than many healthy girls would show on visiting a stranger.

There is scarcely a muscle in the human body so much influenced by mental emotion as the heart; and in this, as in every other instance, we recognise the influence of debility. The fact is so well known, that I shall only bring forward one illustration, which, though it borders on *persiflage*, yet contains "a moral."

One young man, timid and diffident, when he "pops the question," finds his heart palpitate from the combined influence *of fear* and *mental emotion;* another, under the Bacchic influence of wine, goes through the same ceremony without a qualm, and has the palpitation *the next day* when he thinks over what he has done.

We turn, lastly, to the organic nervous system, and inquire into the results of debility upon it. Our ground here, unfortunately, is somewhat treacherous, as we are not sufficiently acquainted with the real influence the nerves exercise over the different organs of the body.

We therefore put the following forward with diffidence and hesitation. Debility deteriorates the quality of the milk in a nurse, and makes it "windy" for the child. Intense mental emotion will make the milk absolutely poisonous, and produce convulsions or death.

Debility, fear, anxiety, or other intense depressing mental emotions, check digestion, *produce vomiting* often of a severe type, purging, profuse urination, lacrymation, &c. Disgust will check an

erection. Anger or anxiety may produce jaundice. I have known a bride on the wedding morning delay the ceremony from an attack of vomiting, and a bridegroom who could only attend to business under the influence of brandy and water. Vexation will produce asthma. Fright suspends the secretion of saliva; and there can be no doubt that debility is a fruitful source of dyspepsia, flatulence, menorrhagia, &c.; and that grief and anxiety have much to do in the formation of tubercle and cancer.*

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* Ten years ago I had two cases of cancer under my care. The patients were elderly ladies of about the same age. In both the disease occupied the mamma, and was in its earliest stage. There was no apparent difference in the constitution of the two, and their position in life was a comfortable one. One, however, was not only excitable, but suffered from a constantly-operating cause of deep anxiety; the other was composed, and had no cares beyond what her complaint produced.

They were both treated in the same way, simply by a belladonna plaster over the seat of the disease, good and generous diet, and an occasional tonic. The first steadily got worse, and died in a few months. The second is at this moment perfectly well. The scirrhus mass slowly withered, and after a lapse of five or six years separated from the rest of the mamma like a huge black wart. This at last fell off, leaving a deep depression in the mamma, and giving it the appearance of an inverted cone.

There was little reasonable doubt that the wearing anxiety to which the other patient had been subject was the reason for the rapid march of her complaint.

CHAPTER XIII.

Application of foregoing observations — Law — The word irritability defined — Corollary when there is debility — The symptoms will be referrible to the muscular or nervous systems according to circumstances; or the two may be combined — Case from Griffin, in which both muscular and nervous systems were intensely affected — Annotations — Summary of views.

After these remarks, we venture once more to enunciate the following law, which deserves the highest place that memory can assign to it:—

The greater the debility of a patient, the greater is the irritability of his nervous and muscular systems.

By irritability, we mean propensity to take up diseased action, or tendency to perverted function. It would not be difficult (though foreign to our present purpose) to show that this law is capable of more extended application; for we think that there is not any philosophical physician who would deny the truth of the proposition—

"The healthier the individual, the less he is predisposed to disease." Or the converse, "When an individual is not in perfect health (*i. e.*, when his natural or vital powers are deteriorated), he is predisposed to disease of one or more organs."

Having thus shown that when any individual is

in a debilitated condition, he is subject to affections of the nervous or muscular system, or both together—and that they do not come on unless there is some constitutional or acquired debility, or reduction of the vital powers—it remains for us to remark that the symptoms of one or other will predominate, according to the circumstances in which the patient is placed. Is she a servant, a milliner, a sempstress, the mother of a family, or otherwise actively engaged, the muscular system will be chiefly affected. If, on the other hand, he or she be in a good position in life, sedentary in habit of body, but active in mind, the result of debility will be shown in some form of hysteria. It may be that the complaint may manifest itself by some curious crotchet of the mind—(*i. e.*, in the mental nervous system), a morbid appetite, a vitiated taste, the love of sympathy, feigning disease, &c.; or by neuralgia—(*i. e.*, in the sensitive nervous system), ocular spectra, strange noises in the ears; or in strange contortions of the body—(*i. e.*, in the muscular nervous system), in tremendous fish-like springs, in curious antics, in gyrations, dancing or leaping; or in the total absence of muscular power, in spasm of the œsophagus, "globus," and the like. Or we may have the organic nervous system affected chiefly, as evidenced by the sudden generation of flatus in the stomach and intestines, in excessive urination, in the production of strange pigment in the face, strange smells from the

uterus and lungs, simulation of disease of large joints, of apoplexy, and the like.

If mental labour and great anxiety are combined with bodily fatigue, we shall have painful muscular affections added to the hysterical ones, thus complicating the symptoms, but not obscuring for a moment either the diagnosis or the plan of treatment.

The intense amount of suffering occasionally produced by a non-recognition of the principles we have laid down, is well shown in the following case, which we quote from Dr. Griffin's work ("Spinal Irritation," p. 7, *et seq.*). We place in italics such comments as will serve to show the reading we should give to the symptoms described. As might naturally be supposed, we consider the report of the case incomplete, many important points (in our estimation) being omitted.

A young lady, æt. twenty-one, who had always before enjoyed good health, received a slight blow on the chest from her mother, during her convulsive struggles while dying of apoplexy. She spit up a little blood at the time, and felt pain for some days. (*Was she phthisical? Had she been exerting herself to hold her mother? Had she nursed her long, and had she been much shocked or agitated at the sudden death of her mother? Had she lost her appetite? Where was the pain in the side—in the pectorals, the intercostals, or the oblique? Most probably the former, as they would be greatly* strained *in*

lifting the sick woman.) After this it suddenly removed to the abdomen, affecting the left side, about the situation of the descending colon, and was accompanied by frequent pulse, tenderness, and the most incessant vomiting. (*The sequence of symptoms is probably not strictly maintained here. The first would be pain in the left external oblique, vomiting from anxiety or mental emotion, then tenderness of the muscles, one or more, from the effort of vomiting, rapid pulse from debility.*) The pain was abated by bleeding, blistering, and aperients, but nothing could allay the vomiting, which was brought on by the smallest quantity of anything solid or liquid taken into the stomach. (*The vomiting produced by excitement is now kept up by debility. The pain is diminished by blisters, &c., whose soreness is such that they compel muscular quiescence below them for a time. Rest in bed, though not mentioned, was coincident with the blister, &c. In the bleeding, blistering, and purging we have direct means adopted for debilitating the vital powers. We anticipate, therefore, to meet with disorders of the nervous system in their fullest extent, and painful muscular affections in addition. We have them in the succeeding symptoms.*) This came to be attended with flitting pains in the head, with throbbing of the temples and intolerance of light, attributed to the straining, the continuance of which made it difficult to move the bowels. Even when medicine did operate, it gave no relief. (*Sensitive*

nervous system now very irritable, organic muscles weak, purgatives increasing the mischief.)

She remained many days in this state, suffering much from the want of rest and the distressing retching (*both exhaustive*), after which she was attacked with frequent oppression, occurring at intervals through the day, and usually terminating in fits of insensibility. (*Respiratory muscles are now so feeble as to be inadequate to perform the ordinary motions of respiration well,* and the imperfectly aërated blood produces partial coma.*) In these she usually lay for ten or fifteen minutes, with her hands fast clenched (*the muscular nervous system is now affected*), or sometimes shutting and opening them with great rapidity. There was considerable rigidity of the tendons of the wrist while the fit lasted, and the first symptom of amendment was always a gradual relaxation and opening of the fingers, when she fetched a long, deep sigh (*fully aërating the blood*), and recovered. These oppressions proved as intolerable as the vomiting, and were very distressing. Repeated blistering (*still farther diminishing power and increasing irritability*), ether, asafœtida, opium, and other antispasmodics were had recourse to without relief,

* As women naturally breathe with the upper part of the chest, and not with the diaphragm as men do, they experience a far greater sense of "oppression," or difficulty of breathing, when the muscles are weak, than we; for it is far more difficult to move the whole thorax in every inspiration than to move the soft bowels, &c., as any one may satisfy himself from the smallest experiment.

except of the most temporary kind. (*None of these gave more than transient strength—the other remedies! were diminishing the permanent strength.*) At the end of three weeks, however, the more severe symptoms of the complaint, without any very obvious cause, and after resisting every kind of treatment, began gradually to decline, the oppressions, throbbing at the temples, fits of insensibility, and vomiting manifestly abated, and the digestive organs, the state of which had never been lost sight of, improved rapidly under mild aperients and bitters. In short, she soon after recovered a sufficient degree of health to permit her going to a party, and even joining in the amusements (*we have here the first indication of a correct plan of treatment, but unfortunately the "principle" is not recognised, the success seems to have been considered as accidental: a flaw now ensues in the philosophical history of the case, and we are left to imagine there may be a period of activity, and possibly gaiety before a relapse comes on*), at any rate.

The reprieve was but of short continuance. A return of the oppression brought with it cough, pain in chest and left side; the former slowly disappearing as the latter symptoms advanced and became more formidable. The cough was loud, dry, convulsive, and became at last so incessant that she had no intermission of the fits day or night. (*Irritation of organic nervous system, followed by symptoms evincing excessive irritability of*

muscular system, both in the larynx, diaphragm, and other respiratory muscles.) The convulsive expirations followed one another with such rapidity, that one can only conceive the suffering by imagining the fits of a severe chincough following one another without interval. To heighten the distress, it increased considerably the pain in the chest and sides (*pectorals and intercostals*), and the respiratory muscles *became so sore and tender* from the eternal convulsive action, that *she could scarcely bear to have a finger touch them.**

After much time had passed in vain attempts to remove or alleviate it, she became affected with swelling and pain in the anterior part of the right lobe of the liver, which increased rapidly, and formed a round circumscribed shining tumour, bearing all the appearance of an abscess (*cramp in the oblique muscles*). This was very painful, and the torture produced by the constant coughing was extreme.†

A course of blue-pill was now prescribed at a consultation . . . copious ptyalism followed . . . the cough was now first relieved, and in a week or two ceased altogether. (*Query—from the blue-pill?*)

The young lady, however, remained in a very

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* The reader is particularly requested to notice this fact, as affording a clue to the cause of the spinal tenderness afterwards discovered.

† This answers the description given me by Mrs. L. (p. 40), of a tumour she once had in the back, which was in like manner considered an abscess. *Vide* case of Mrs. T., p. 16, and the note, p. 19.

weak, complaining state, troubled much with occasional pain in the head (*occipito-frontalis?*), intolerance of light (*irritability of sensitive nervous system*), and eventually, as the soreness of the gums diminished, the terrific cough evinced a disposition to return. (*Query—is it possible the uvula was relaxed?*) It was not considered advisable to persevere in the mercurial pill, which seemed to be the only preventive likely to be employed with success, as she had suffered much from the salivation, and was greatly debilitated. (*We anticipate now a great aggravation of symptoms*, as *increased debility must have produced increased irritability, both in the nervous and muscular systems.*) The consequence was a renewal of her sufferings, if possible, to a more intense degree than before. New symptoms week after week supervened, or alternated with the old, and were only more distressing on account of their strangeness and suddenness of attack; at one time she had oppressions, at another headache with fits of insensibility; at a third, the old pains traversing different parts of the colon and ileum with their former violence. She was attacked, too, with severe pain and tenderness in the hypogastric region, followed by retention of urine (*debility of the bladder*), obliging the introduction of a catheter. But little was drawn off, however, as the secretion was almost entirely suppressed, and did not return for three or four days (*disorder of organic nervous system*), when the soreness and pain in the hypogastric region

subsided. During all this time the pain and tenderness of the chest and the dry, loud cough were never for a moment absent. (*It will be scarcely considered necessary that these symptoms should be explained at length after what has gone before.*)

The case was now looked upon as quite hopeless; the distress occasioned by such complicated disorder destroyed all rest and appetite, and induced extreme emaciation. Solid food could no longer be borne; it was either instantly rejected, or excited violent spasmodic pain in the stomach, and sometimes the oppression. (*How can we expect a debilitated stomach to do the work of a strong one?*) The slightest motion (she was now continually confined to bed) brought on similar paroxysms; after which she usually became almost insensible, with suppressed convulsive efforts at coughing, her voice gone, and her pulse rapid (*inanition*). This state generally lasted for some hours, sometimes much longer; and as the strength gradually returned, the hacking eternal cough resumed its attack.

It would be tedious to enter into a minute history for the succeeding two or three years. The disease successively assumed the appearance of organic disease of the lungs, heart, and abdominal viscera. . . . On an accidental visit of the medical attendant he was struck with the connexion between the pains and the distribution of the spinal nerves. (*Query—did he think at all of the muscles?*) An examination of the spine was made. There was

neither deformity, unevenness, nor prominence. There was tenderness over the whole column. Pressure on any of the spinous processes excited instant convulsive fits of coughing, and pain at the corresponding point anteriorly, or oppression.* (*We presume the tenderness is from constant strain upon the tendinous fibres of muscles attached to the spine. We "query," whether the act of pressure shook the body, and with it a relaxed uvula, of which we have no notice. The oppression is due to the fatigue of sitting up, &c. We shall see from other symptoms whether this interpretation is borne out.*) The slightest curvature in any direction was intensely painful; attempting to turn in bed during the examination (which, however, she could never acccomplish or permit) (*a good proof that the spinal tenderness was due to the cause we assign to it*) occasioned a sensation as if her back was breaking; raising the head from the pillow and bending the neck forwards brought on a burning† pain at the middle of the dorsal vertebræ, which shot down to the extremity of the spine (*we surely need not explain this!*), and thence to the limbs, knees, and toes, followed by a sort of general cramp!‡

It seemed extraordinary how little the patient directed attention to the back in so intense a case

* *Vide* note, p. 121, *ante*. † *Vide* p. 20, No. 1, *ante*.

‡ It must be remarked here that a person cannot bend the head forwards, when sitting up in bed, without stretching not only the fasciæ, &c., of the back, but of the buttocks, thighs, and legs as well—as any one may convince himself of by a ten minutes' experiment of the position.

of spinal disease; she frequently complained of pain there, but as it was never constant like those felt at the extremities of the nerves, and was only excited by pressure or motion of the spine, and was then generally accompanied by or occasioned extreme sickness of stomach, retching, and eventual insensibility (*was the patient told to sit up in bed when the examination was made? if so, these symptoms are readily accounted for*), it claimed little notice in the train of symptoms. (*It is, of course, an assumption that spinal tenderness existed from the commencement of the complaint, but the assumption once being established as a matter of fact, we are not surprised to read the following:*)—The complaint now clearly developed itself. (!) The various affections to which she had so long been a sufferer were obviously attributable to some disease of the medullary column!! (*I need not copy the rest of the paragraph, with the exception of the last sentence.*) All the complicated, and it would appear whimsical, attacks of this strange malady seemed now simple and necessary results, and their alternations with one another merely indicated the shifting of the diseased action to new points of the vertebral chain. (*As we dare not suppose that the present generation is more infallible than the last, we leave the appreciation of this medical reasoning to each individual reader.*) As issues or blisters to the spine were almost the only untried remedies which the state of the patient suggested, and these

seemed wholly inadmissible, &c., the case was again left to the efforts of nature.

(*The disease now slowly progressed, and as it did so the "nerves" became irritable to an almost incredible degree, the sensitive, mental, and organic being all affected; the muscular system was affected equally and to such a degree, that any unusual or unanticipated motion produced a new and painful symptom.*) The bowels were attended to, and narcotics were used for violent pain. The disease was, nevertheless, slowly progressive, and as it advanced declared its true seat to the most careless observer; the whole spinal column was, if possible, more acutely tender; the slightest pressure or motion brought on pain, cramps, or fits of retching; drawing the sheet or arranging the bed, or the sudden falling of a piece of furniture, excited an instant paroxysm, commencing with cramps of the chest, sense of suffocation in the throat, with low, crowing inspiration (*spasm of laryngeal muscles*), not ringing and stridulous as in croup, and terminating in extreme debility, with total loss of power and tremulous, convulsive motion of almost every muscle in the frame. The affection of the head and pain in the throat became more tormenting; there was a constant distressing pain of stomach, with rawness, soreness, and sometimes a burning feeling extending up the trachea to the larynx (*muscular pains in the sterno-thyroidei, and sterno-hyoidei, and others, induced either by talking or*

by the habitual or instinctive act of swallowing). There was a variable pain in the chest or left side, and a sore sensation as of a cord or band stretched across from the superior bone of the sternum to a point corresponding with the anterior part of the fifth rib on the left side (*insertion of the lesser pectoral*). This never permitted her stretching back and making the chest prominent: she had also apprehensions that it would rend or snap in the violent fits of coughing. She had also a frequent feeling as if the spine were seized internally and drawn to the sternum or stomach (*spasm of the diaphragm*): when to the former, the sensation was succeeded by convulsive spasms with oppression; when to the latter, by violent cramp extending upwards to the sternum and shooting down to the limbs, knees, and toes. At times, when the cough was extremely violent, and shook the frame much (*ample cause for fatiguing the muscles*), or when the patient was lifted on a sheet to have her bed arranged, she felt as if the articulating surfaces of the spinal bones were inflamed, sore, and glided or rubbed upon one another in the loose ligaments. This feeling was so excruciating, that whenever she was about to be removed on a sheet, she was accustomed to throw all the extensor spinal muscles into action, and by a violent effort bring the whole spine into a state of rigid extension, to preclude the possibility of the slightest motion. An approach to syncope always followed the exertion,

in which she lay on the bed for days, unable to speak, or swallow, or even move, though conscious of what was passing around her (*good evidence of her deplorable state of debility*). Although so seemingly still and breathless, that it might have been imagined she lay in an utter state of relaxation and exhaustion on these occasions; if a hand was laid on hers it was found in rigid spastic action, and instead of reposing quietly on the chest, as it appeared, pressed firmly and almost convulsively against it, as one does to prevent the elevation of the ribs in painful breathing (*persistent spasm after the effort to make the body rigid*). The breathing, too, although so apparently easy as to be almost imperceptible, was found on close observation difficult and suffocating. There was a subdued working of the muscles of the throat, and inspiration was either wholly suspended at times, or occurred in short and indistinguishable catches, until a deep sigh brought with it general relaxation and relief. It was usually a full week before she recovered from the ill effects of these attempts to move her from her bed, but even turning her head on the pillow for a few minutes brought on such convulsive coughing and subsequent sinking, that she could not utter an audible whisper, and would lie for hours in a state of the most extreme exhaustion.

As it seemed that her sufferings could now at all events admit of little increase, an issue was inserted at each side of the second cervical vertebra,

by which the pain of the forehead, face, and scalp was considerably relieved. All the parts, she remarked, above the issue were better, the other symptoms were little altered. The fourth year of her sufferings, while drinking one evening, she felt a sensation as if something gave way in her chest—as if the band from the upper part of the sternum, before spoken of, had snapped (*paralysis of lesser pectoral?*). She was instantly attacked with oppression, a sense of burning and pain in the throat and chest, croupy breathing, total loss of speech, and blindness of the left eye, with numbness and paralysis of the left arm; she had also a sense of numbness extending from the point in the chest where she felt the band snap, across to the shoulder, and down the left arm to the fingers. She had, too, difficulty in swallowing (*pharyngeal muscles affected*), and violent pain, straining, and retching when the smallest quantity of food or drink reached the stomach. There was some swelling and excessive tenderness of stomach, with violent cramp at intervals, which extended down to the limbs and knees. The secretion of urine was suppressed, no more than half an ounce having passed in twenty-four hours (*organic nervous system affected*). There was no tenderness or fulness in the pubic region.

After the lapse of some days, during which croton oil and other diuretics had been freely used, the eye partly recovered its power, and the action

of the kidney was restored. Blisters to the throat and neck were of very little advantage; but on applying one to the occiput, some degree of voice was manifestly recovered, and the power of swallowing perfectly; the fingers of the paralysed arm also seemed to acquire a little motion. The paralysis had been discovered to affect the whole side. In six months the arm had attained much strength, and she could speak in a low whisper, though with pain and difficulty, &c. &c. Five years after this, the lady was mending, and spoke well, was cheerful, and anticipated a perfect recovery.

I have quoted this case at great length, because it shows, better than any other I could meet with, the immense amount of suffering entailed on a patient by a false view of the case, and of course a non-recognition of the correct principles of treatment. The symptoms become aggravated by the means adopted for cure, and the patients get at last into such a deplorable state of weakness, that the vital powers are unable easily to bring them round. With the exhaustion comes deficient nutrition in every organ, the stomach is too weak to digest well, the wear and tear of the body exceed the supply, the frame is gradually consuming, and in the process it often happens that an amount of suffering is undergone, almost, if not quite, equal to what would be felt if the body was to be really burned up with fire.

We have thus attempted to show—

1. That the symptoms attributable to "spinal irritation" have nothing to do with the spinal cord, or the nerves arising from it.

2. That the majority, if not the whole of them, are due essentially to the same cause which produces the spinal tenderness.

3. That the spinal tenderness results from overstraining of the fibrous origins of the muscles attached to the spinous processes.

4. That the spinal tenderness is analogous to that experienced at the origin and insertion of muscles in other parts.

5. That the weaker the individual is, the greater is the tendency to fibrous pain.

6. That the most common causes of the pain and tenderness, in any part of the muscles, are constitutional or acquired debility.

7. That debility increases equally the irritability of the muscular and the nervous systems.

8. That before hysteria can manifest its presence there must be debility from some cause or other.

9. That that debility may show itself in the muscular or nervous system, or both.

10. That debility affects the nervous system as a whole or in sections—*i.e.*, mental, sensitive, motor, organic.

11. That functional affections in any one or more of these parts have long been recognised as emanating from deficient vital power.

12. That anything which deteriorates the vital power has a direct tendency to aggravate the complaints referred to.

13. That muscular and nervous irritability are subject to the same laws, and that the remarks applicable to the one are, *mutatis mutandis*, applicable to the other.

14. That the link connecting hysteria with spinal disorders is constitutional or acquired debility.

15. That, as regards curious mental phenomena, excess of sensibility in the nerves of common or special sensation, a propensity to spasmodic actions and to irregular organic phenomena, there is no essential distinction, they are simply different facets of the same die.

16. That the essential distinction between genuine hysterical and muscular affections is, that a large amount of bodily rest is necessary for the cure of the latter, while it is not so absolutely requisite for the former.

17. That, for the future, it will be necessary to discriminate between pain arising from muscular fatigue, cramp, or fibrous stretching and genuine neuralgia, and that there will be neither precision in diction nor a clear idea of treatment until the distinction is made.

We may now proceed to consider the plan of treatment necessarily resulting from these views.

CHAPTER XIV.

The value of a medical theory judged by the treatment it involves — The treatment proposed in accordance with recognised facts — Sydenham's maxim — Danger of departing from it — Embraced by the homœopathists—Principle embodied in their theory — Reference to "sympathetic powder" — Law enunciated — Treatment in recent cases — In confirmed — In recent cases, to husband strength — To increase it — Difficulty in persuading patients to do so — Causes — The amount of labour or exertion is to be reduced — An increased amount of rest is to be enforced — Amount of work gone through by women in their households — Rules regarding rest — It must be in the recumbent posture and not too prolonged — Opiates, if necessary, at night — Elastic belt or corset — Any drain upon the system to be checked — The strength to be increased — Change of air — Its value considered — Change of habits as well as of scene required — Exercise in the open air — Its importance discussed — Difference between the open air of towns and the country — The diet must be generous and nutritious — The supply of food should equal the demand of the system — A weak stomach cannot digest strong foods — Influence of tonics, wine, steel, &c. — Wine assists the vital powers — Is not a substitute for food — Food recommended — Things to be avoided — Tea often prejudicial — Why baths, &c. — Purgatives to be shunned as a rule — They produce flatulence — Observations on their use — A daily motion unnecessary — Cod-oil, steel, bitters, quinine, and opium combined — Any special sources of irritation are to be investigated, and if possible cured.

WHENEVER any author propounds a new medical theory, the Profession commence their examination into its value by ascertaining the influence it has upon "treatment;" and if the latter seems to be inconsistent with previously reliable knowledge, they reject the former almost without a single consideration. If the new theory merely leads to a

novel classification of facts, or a fresh nomenclature of disease, without attempting to meddle with treatment, the speculations of the author fall upon equally careless ears. But where the treatment proposed is one evidently based upon principles of known worth and universal application, the theory generally receives a fair hearing, and is discussed in an anxious spirit of inquiry.

It was not, therefore, until I had made a full investigation of the bearing of the preceding views upon the treatment of nervous affections, and a careful annotation of the plan proposed, with the circumstances under which bad nervous complaints have hitherto received their cure, that I ventured to indulge the idea of promulgating them to my professional brethren.

I have already so frequently referred to the present most approved modes of treating neuralgia, insanity, convulsions, chorea, hysteria, and the like, that I need only recapitulate and "codify" them, by saying that they all are intended *to give vigour to the constitution.*

This is precisely the plan to which the foregoing observations and reasoning tend. *We must medicate the constitution and restore it to health.* This must be the great end always in our minds, rather than the conquering of some particular symptom.

At the risk of being thought irrelevant, I will tell the following anecdote, as illustrating a frame of mind we frequently meet with in practice: A

late physician in this town, of great reading, and one who aspired to literary fame, was called in consultation to see a patient who was very ill. The tongue was greatly furred. "We must clean the tongue" was the medical dictum. Some medicine was ordered with that special end. In three days after, the surgeon meeting the physician, remarked, "Well, doctor, our patient is dead!"—"Never mind," was the reply, "we cleaned the tongue!!"

I believe it to be by no means an uncommon thing for the practitioner, in his attempt to cure a symptom or a disease, to lay the foundation of another, and the patient actually dies that he may live! Thus, for example, I have heard a sexagenarian surgeon remark of a mutual friend, deceased, "Ah, poor fellow, he had an attack of pneumonia; you know I was obliged to bleed him, and he had not stamina for it, so he sank under it!"

It is a maxim in the world, "Don't kill yourself to keep yourself;" it certainly ought to be so in physic (reading "your patient" for "yourself").

Sydenham, the English Hippocrates, laid down the law—"Primum est ut non nocere;" or, to translate freely, the physician must do as little harm to the constitution as he possibly can.

Unfortunately for the advancement of true medical science, the so-called allopathists have neglected this principle too much, and a most formidable heresy has consequently sprung up, the

more dangerous as it comes under a semi-scientific garb. In it the patient is left to nature, but not to poor unaided nature, whose propensity during illness is to despond and make matters worse, but to bright, sparkling, hopeful nature, whose fond propensity it is to see, in every "medicine" swallowed, a step made in advance towards health. "A rose by any other name would smell as sweet;" and to a sick man "medicine" is still "medicine," whether it be a grain of mercury, or its twentieth dilution by the homœopathists. "Graphite" and "calx carbonica" of any dilution will operate as "medicine," if ordered by a "doctor" and dispensed by a "chemist;" but the *same dose* taken by licking a smooth oyster-shell or a bit of mother-of-pearl, or by touching the tongue with a lead pencil, would be utterly inert!

But the homœopathists not only do no mischief (of course I am speaking generally), they attempt, in addition, to do good, by giving cod-oil and other tonics, which are introduced under the specious pretence of getting the patient into condition for the other medicines to operate! The result is a great amount of success; and this is attributed to the drugs, notwithstanding their infinitesimal dilutions. But false as is the theory, it enwraps a great truth—a truth which must force itself, ere long, on the minds of all thinking people. The old "weapon-salve" was used with wonderful and mysterious success for a whole century, ere the prin-

ciple of healing wounds by the first intention was recognised; and it may be a century from the rise of the system of homœopathy before its principle is understood—namely, *that as deficient or defective nutrition, or overpowered vital force, is the cause of the manifestation of disease, so a restoration of the healthy tone is necessary for recovery;* and *that everything which deteriorates the constitutional powers necessarily protracts the period required for restoration.**

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* In speaking thus of homœopathy, I wish to steer equally clear of the appearance of ridiculing it on the one side, and of the idea that I have the smallest leaning towards it on the other. In my capacity of lecturer, first on materia medica and therapeutics, and subsequently on the principles and practice of medicine, I honestly endeavoured to study the subject, both by reading, and conversation with its professors. I ascertained, that where I had been in the habit of administering no medicine at all, "the doctrine" prescribed globules; where I recommended generous living and tonics, "the doctrine" did so too; where there was a possibility of art doing good and not harm, I found that art was used, quite irrespective of Hahnemann. I also found that the principle of "laissez aller" was frequently productive of great evil; but these cases were so numerically few, in comparison with the others, that they were considered as deplorable accidents (as are deaths by chloroform), and not necessary occurrences. It was clear that homœopathy shone brightly only when it was contrasted with the so-called heroic treatment of the hospital, army, and naval doctors of its early days. Its own light resembled the electric one, which requires a constant adjustment of the charcoal points to keep it up. At one time the infinitesimal dose, with the "virtue of the drug, magnified by trituration," was the sun of the system; but by-and-by it paled its fire, and gave way to another, which is already on the wane. Harvey's memory, and the opposition made to Jenner's views, were used as a lever to move the world; but a recollection of Sir Kenelm Digby (*vide* "Lay of the Last Minstrel," note 8 to canto iv.) broke the fulcrum. Nevertheless, it was clear that there was a truth to be sought, as a diamond amongst quartz pebbles. What was it? It was this: Did we know, in reality, as much as we ought of the natural history of disease? This seemed to afford a clue by which to

In the treatment of affections of the nervous system these principles must never be lost sight of. They must form the main trunk, and all other things must be considered as branches solely. The physician must resemble a guide who has to conduct his patient across a difficult country to a certain goal—health; it may be that his route will at times deviate, as he has to turn this rock, or cross that river, but every *détour* ought to be subservient to the end in view. How miserable the guide who leaves his convoy farther away from his destination at the end than at the beginning!

The broad stream, the main channel of "principles" is easily discovered; it is far more difficult to steer with a pilot's nerve through all the varied shoals so constantly occurring in the nervous branch of the river of life.

We propose, in the first place, to consider the principal line of treatment to be adopted in ordinary cases;

And, secondly, the one most likely to be successful in cases like the one we have quoted from Griffin; or where the practitioner is not consulted

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enter the labyrinth of error. I sedulously followed it; and I can assure those who choose to take up the same thread, that it will bring them out at last into a fair hall, where there are no "Mene Mene Tekels" which require a Daniel to interpret; where the cobwebs of false theories cannot thrive; and where the most stylishly-dressed system must immediately depose its finery, and stand in naked guise of truth or falsehood. Outside that hall many a "pathy" will stand and look in, but never enter.

until the disease is fairly rooted, and the strength of the constitution greatly impaired.

1. The broad principles of treatment to be adopted in the affections we have referred to are—

a. To husband the existing amount of constitutional strength as far as possible.

b. To increase it.

a. It is far easier to know the desiderata than to induce our patients to comply with our recommendations. For this we must be prepared. One, cannot take sufficient rest, for the household duties fall upon her, and she is unable to give them up, or too poor to provide a substitute. Another will continue to nurse till she is physically incapacitated, putting, in her own estimation, present suffering against a probable future contingency, involving greater pain and more expense. Another patient (a very common occurrence) has formed her notions from some domestic medicine-book, some nurse, or some newspaper paragraphs, whilst she has been in health. When she is in any way debilitated, she is too weak to think—the mental labour required to take up a new train of thought, hopes, and confidence is too great. In her own idea, the patient is firm, in the opinion of the healthy lookers-on she is obstinate, in her resolves, and actually prefers pain and mental quiescence to relief and mental violence. Those who have had much practice will readily recognise this as a main obstruction to complete success.

(1.) The strength is to be husbanded by diminishing the amount of labour undertaken, whether that is mental or bodily, or both.

In this the physician can do little more than advise with the utmost weight of his professional character; but he may effect the same object by insisting *upon an increased amount of rest.*

Few persons, till they give their unbiassed attention to it, have any definite idea of the amazing amount of work, women in the middle and lower classes of life get through day by day. From six or eight in the morning till ten or twelve at night they are incessantly at work,—washing, dressing, scouring, carrying, cleaning, making beds, shaking carpets, sweeping floors, ironing, sewing, darning, knitting, nursing, playing with children, teaching infants to walk, carrying them in their arms, cooking, &c. All these require muscular exertion, and this is sometimes excessive in degree—their very insignificance and their daily occurrence cause them to be ignored. The labourer, the man of business, the doctor, know little of them, for they are performed out of his sight. They all see their rooms pretty nearly in the same condition, their linen, &c., in the proper state, and never care about, for they do not know, the trouble required even in these small details.* A woman herself, knowing

* As the proverb says—

"Man's labour ends at set of sun,
But woman's work is never done."

that some of her companions in sex get through their duties without suffering, imagines that the same duties can have no influence over her health or feelings, and she attributes her complaints not to what she has to do, but to something that prevents her doing them, and which may be removed by art or skill; and as the abdominal muscles are commonly affected, the patient takes blue pill and other aperients, and thus makes matters worse. The only way to lighten labour under these circumstances is to insist on a daily rest in the recumbent posture for at least half an hour, and more if necessary, in the middle of the day.

Rest, like all other means of cure, is liable to abuse in various ways.

When excessive and long-continued, it weakens the muscular system from simple want of exercise (*e. g.*, the muscles of a paralysed limb ultimately become fat, and lose all contractility whatever, when they are allowed to remain quiet, but continue healthy if they are stimulated daily by galvanic shocks).

Rest, on the other hand, may be insufficient; it may be taken in a chair, or on a sofa, instead of on a bed, and with such a style of reading, writing, or conversation, to fill up the time, that the mental exertion is actually greater in its effects on the system than the bodily fatigue it supplants. For rest to be of any use, the patient should retire to her bedroom, at two o'clock every day, and lie on

her back on the bed for a good half-hour, with no other companion than a readable book. If there is much constitutional debility, another such rest is required about seven o'clock.

This method of husbanding strength is the greatest possible assistance and comfort to those who are nursing or are pregnant.

The use of a well-made corset or elastic waist-belt gives great support and assistance.

Sleep at night is indispensable, and, if necessary, must be promoted by opiates.

The use of an arm-chair during the day should be recommended.

(2.) The strength is to be husbanded by diminishing discharges of any kind, such as diarrhœa, diuresis, menorrhagia, loss of blood in any way, leucorrhœa, prolonged lactation, and the like, into the particulars of which it is not necessary to enter.

b. The strength must be increased if possible. To effect this the means we have at our command are comparatively few; they consist—

(1.) Change of air and scene, which operates in two ways, by removing the patient from exhausting labour, and by placing her or him in the most favourable condition for improving health. It is the common opinion, and in the main the most correct one, that the change must be from a bad air, as that of a town, to the purer air of the country or the seaside; but experience shows that

a change from the country to a comparatively unhealthy town is productive of good, whenever it is attended with absence of excessive mental or bodily labour, and the presence of pleasant associations and companions. Change of air is of little use when the patient carries with him all the habits, &c., of home. It is of small advantage for a worn-down mother to go to the seaside for her own health, and to take with her the most chargeable of her younger ones; or for an author to resort to the Lake district with his pens and ink in undiminished array. Equally useless is it for the victim of hysteria to change the assemblies, concerts, &c., of the town, for the assemblies, dinner parties, picnics, &c., of the country.

(2.) Adequate exercise in the open air, and in a locality where the atmosphere is pure, is advisable.

Every clause in this sentence is important, for if the exercise be excessive, the strength is overtaxed, the power of digestion reduced, old muscular pains increased, and new ones produced; if the exercise be taken in the house, it is simply exhaustive, and of course likely to increase the troubles already existing. There is no difficulty in persuading oneself of this fact, for amongst the chief sufferers from spinal irritation, and other nervous and muscular affections, housemaids are the most prominent, and the amount of exercise they have daily is almost proverbial. Exercise in

the open air of a large town is equally exhausting with that in the house, as is readily proved by the lassitude and debility shown by most of those who lead an active life in towns. In Liverpool there must be many who have felt jaded and tired-out while walking in the streets, but who, as soon as they have reached New Brighton, or have "topped" the Bidston range of hills, away from town smoke, immediately forget their fatigue, and enjoy an evening stroll. They may then come home, pleased with their excursion, and meditating a return; but as soon as they enter the town, weakness seizes them, and they recognise at once the difference between town and country air. Exercise in a town produces loss of appetite, indigestion, and a craving for stimulants. In the country it produces a healthy appetite and a good digestion; it promotes the circulation, increases the oxygenation of the blood, and exalts the vital powers.

Exercise must invariably be adapted to the condition of the patient, and where walking is too much, a carriage or quiet horse must be used.

(3.) The diet must be generous, ample, and digestible, with such intervals between meals that, while there is sufficient time on the one hand for the stomach to rest, there is not sufficient to enfeeble it on the other. Long fasts are very prejudicial. This rule is of the utmost importance, and well deserves all the attention the profession can bestow

upon it. Nothing is of greater moment than so to regulate the supply of food that it may equal the demand created by muscular exertion and the other exigencies of the body. A young lady whose habits are sedentary requires far less food than another whose habits are active to a high degree; and yet it too often happens that the former feeds largely, and the latter very sparingly. When the body is exhausted by labour, the stomach takes part in the debility, and is unable to digest the ordinary food employed; the want of appropriate nourishment, in its turn, increases the patient's weakness, and thus the two may go on gradually aggravating each other.

Whenever the stomach is thus weakened, it must be our endeavour to try and increase its digestive power, and to employ such food as will be both nutritious and digestible.

The first end is best attained by the use of wine, steel, bitters, &c.* The administration of wine must ever be regulated by the effect it produces. At first, when the patient is exhausted, a very small quantity is sufficient to produce uncomfortable feelings in the head, and it is, therefore, too often cast aside as "not agreeing;" this, however, forms no impediment against its conti-

* When there is indigestion as a prominent symptom, it will be well, in addition to other means, to administer a dose of pepsin with each meal. That made from the stomach of the pig is considered, from physiological considerations, to be the best.

nued employment, but it must be combined with water, or given with some comparatively solid food. The most favourite plan appears to be to beat it up with the yolk of an egg and a little sugar. This makes the wine less likely to intoxicate, as the patient is taking food as well as stimulus.

It must ever be borne in mind that wine alone is not strengthening—it is simply heating or stimulating. It is given to assist the powers of nature, not as a substitute for food; to effect this, a certain amount, varying in every patient, is necessary; beyond that amount, wine is of no service. As a medicine, wine is to be used quite irrespective of the time of day or common conventional rules; it should be taken shortly after the morning meal, before or at the noon meal, and again at or after the evening one.

The choice of the wine may safely be left to the patients; but it must be borne in mind that, as a general rule, the French and Rhenish wines are not sufficiently strong to be stimulating.*

Where wine "turns sour" on the stomach, a proportionate quantity of brandy with water may be used instead.

On the whole, wine or other alcoholic stimulant is preferable to, and far more palatable than steel or bitters.

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* Whenever there is much flatulence and a tendency to vomiting, Champagne or other sparkling wines are preferable to any others. The amount required varies from a pint to a quart bottle daily.

With regard to the choice of food, it is to be remarked that eggs, bread, and milk, in the various forms that the artistic cook is able to present them, are the most digestible and nutritious; that soups* are preferable to farinaceous slops, and solid food to liquid nourishment. But there are certain things to be avoided, amongst which, unfortunately, comes woman's greatest luxury—tea; of all the articles of diet in common use, tea is the most prejudicial to the delicate stomach. It produces flatulence, and weakens the digestive powers. It is to be doubted whether this effect is due to the heat at which the fluid is generally imbibed, to the milk, the sugar, or to the tea itself. The first is the most probable; for, as far as my experience has gone, those who have suffered most

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* Of all fluid nutriments, beef-tea is the most popular; but it is one which varies in value according to the skill and experience of the cook. After having given great attention to the subject, I venture to put forward the following directions as being the most certain of success; they were communicated by a young lady who was nursing her delicate mother with consummate judgment:—

Two pounds of *good* lean beef-steak are to be *minced* small and placed in a brown jar; two pints of boiling water are then to be poured over them, and the whole well stirred: *add nothing more.* Cover the jar, and stew in a slow oven, stirring frequently: an hour or two suffices. If the beef-tea is required very strong, the water is allowed to evaporate, and the stewing process is prolonged, say six to ten hours. Stir up and pour off the fluid, not straining. Skim off the fat.

To prepare for use, add salt and an onion to the quantity required, and raise it to the boiling point.

If an onion is unpalatable, celery, ketchup, or any other flavour may be added; or salt alone may be used.

The deliciousness of beef-tea thus prepared exceeds anything I have yet seen in a sick-room.

from tea have taken it very hot and very weak. Cocoa, or coffee, or milk-and-water answer for substitutes.

It is very prejudicial to drink large quantities of cold water, which has a direct tendency to produce emaciation.

(4.) There are few things more popular for increasing the tone of the system than baths, and the variety of these is infinite. We find persons advocating sea-bathing, bathing in salt or sea-water, the plunge-bath, the sitz-bath, the douche, the wet sheet, the hot-bath, the warm-bath, the cool-bath, the vapour-bath, and the like. Others eschew bathing and plead for cold-sponging daily.

All do good when appropriate, and when not carried too far: they do positive harm when abused. Thus one lad gains benefit from a plunge-bath when he remains in it a few minutes only; another, who remains in it for an hour, swimming or otherwise exerting himself, is positively injured. The same may be said of sea-bathing; one lady has her single dip, and feels a warm glow follow; another enjoys, like a modern Venus, a closer acquaintance with the waves, and does not leave them till starved and blue with cold.

Cold-sponging is open to the same remarks; it does good to the strong, but is prejudicial to the weak, whose small natural heat it diminishes for half the day. If there is much vigour in the sys-

tem, judicious bathing will increase it; if there is little, it will reduce it still more.

Of all baths, the shower-bath is the most useful, especially in hysteria. A person cannot immoderately indulge in it—it is soon over; it produces a gentle shock to the nervous system, is commonly followed by a pleasant glow, and tends more than any other thing to restore tone to the general system.

It never, however, does good when the patient is habitually "cold-blooded", and is made colder by its use.

In general terms, we may say that the value of any bath is proportionate to the reaction it produces; it will improve constitutional power, but will not generate it.

c. With respect to medicines we need not say much; *purgatives* are to be scrupulously avoided, or if administered, they must be of the mildest form and combined with bitter tonics, and not given oftener than once in three or four days; they may for a time relieve the bowels, but after their stimulus, comes corresponding debility, and the patient suffers from flatulence and intestinal atony.*

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* It was my lot, two winters ago, to travel on the Continent with a gentleman who was in search of health. He had been seriously threatened with phthisis, and suffered frequently from spasmodic asthma. His appetite was good, but his stomach and bowels were flatulent. As long as we were quiet at any town the asthma was absent, but it came on invariably the first night after we had migrated to another locality, and then subsided. At first he used to treat himself by aperients and

If the bowels are extremely torpid, they must be "solicited" by large draughts of slightly saline water taken in the morning on an empty stomach,

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meagre fare, and with apparent success, but the influence of this gradually diminished, and at last, during a "vetturino" journey of ten days' duration, it was clear, even to himself, that the principle adopted was unsound, for the asthma was habitual and the weakness extreme. By this time I had learned to read the symptoms right. A day's journey fatigued the system, without, however, inducing the sensation of weariness; the debilitated stomach could not do its ordinary business; the French wines were not stimulating enough to give it transient tone (brandy was distasteful). The result was flatulent indigestion. His purgatives were irritants, and compelled intestinal contraction and the evacuation of the flatus and fæces; with diminished flatulence, came increased mobility of the diaphragm and less distress in breathing. But the second, third, and fourth days after the aperients, the amount of general flatulence increased, being the greatest at first, and gradually going away. At first the milder food, being easily digestible, prevented the recurrence of flatulence and asthma; but when the use of purgatives had been continued for some time, everything was too much for the debilitated digestion. Despairing now of his own plan, my companion adopted mine. After each meal he was to have a glass of brandy-and-water as a "dram," to give up aperients, and live generously. Fortunate circumstances enabled him to substitute port wine for brandy, and the benefit of the change of plan was immediate. A residence for a few weeks at Nice repaired his strength, and for the next eight months, though our amount of travelling was undiminished, he had neither indigestion nor asthma, except on one occasion when, after having had a long day's sight-seeing, he followed it by a good dinner and twenty hours' riding over a long and rugged mountain-pass.

After his return to England he remained well for about five months, but his vigour slowly diminished. After a dinner-party a fit of asthma came on with great severity, and he resorted to aperients once again; they gave him a day's comfort, but were followed by three days' discomfort. He took more pills, had a few hours' relief, and then so serious an attack that he sent for me to meet his ordinary attendant. It was the old story over again. We "tided over" the bad days produced by the medicine, with fetid spirit of ammonia, &c., began cautiously with generous diet, and had the same success as before.

Irritating aperients are to weakly bowels as a spur is to a jaded horse—they give a momentary briskness, to be followed by increased exhaustion.

and by kneading or shampooing after breakfast; by the use of bran-bread, figs, or oatmeal; or they may be relieved at stated intervals by warm-water enemata.

The dogma of the ancients, that the bowels ought to be open daily, is one applicable to men rather than to women; and a large and enlightened experience will prove to every thoughtful mind, not only that an interval of three or four days may be allowed to pass without any ill effects whatever, but that *a persistence in medicine to procure the daily visit will occasionally end in very marked debility.*

Constipation is not of itself a disease, it is only a symptom, and as such must be considered as supplementary to others.

Tonics are of more general application, but they are, at best, mere substitutes for such hygienic remedies as change of air, &c.

Amongst the most valuable are cod-oil and steel, singly or combined. Where the stomach can bear their united administration there is no medicine at all to be compared with them.

It may not be considered impertinent if I give an account of the manner I recommend for their conjoint use: One wine-glass is to be prepared with fifteen minims of the tincture of the sesquichloride of iron and an ounce and a half of water, and another with five minims of the tincture with about six drachms of water, and the dose of oil

(varying from a tea to a table-spoonful). The patient is then to sip from the first glass, swallow the contents of the second, and then finish off the first. In this way the oil is taken without leaving any disagreeable taste, &c., in the mouth. Where the steel is not borne in any quantity, brandy and water may be advantageously substituted. The dose should be taken three times a day, and shortly after a meal.

Next to these two remedies comes quinine; when genuine neuralgia is present, it may be advantageously combined with opium or morphia. In the use of these remedies there is still room for considerable improvement. In small doses they will produce their effect slowly; in full doses, such as three grains of quinine, and a quarter or a third of a grain of morphia, repeated every six hours, they will commonly cure simple neuralgia in a day. If they fail to cure in two days, or if from any cause the complaint returns after apparent cure, the ultimate recovery will be slow, and the cause of the neuralgia is to be sought in an offending tooth or some local irritation.

Opium is a debilitating drug, as is evidenced by the "seediness," nausea, and faintness which follow its primary action, by the general condition of opium-eaters, and the intense and sometimes fatal exhaustion that follows a day or two after a poisonous dose has been taken and recovered from. It must not, therefore, be indulged in more than

can be helped, and when administered, must be combined with stimuli and nutriment.

Hyoscyamus, conium, belladonna, &c., are by no means equivalent to opium; they are useful as outward applications.

A strong solution of morphia—one, two, three, or four grains to the ounce of water—applied as "water dressing," is of great service in the relief of local pain. If a blister be previously produced, and morphia be applied to the raw surface, the effect is greater, for the patient is often narcotized, but the pain is considerable in the sore, and lasts for half an hour or more. An injection of the solution beneath the cutis has been recommended, and may be adopted with advantage when lighter means have failed. When there is no horror of "instruments" it would be well to commence with it.

After these remedies come the more indifferent ones, tannin, gallic acid, zinc, valerian, manganese, &c. &c.

The next point to be attended to, is to remove any morbid condition of the uterus, or any other thing that may act as an irritant.

Bad teeth are very common causes of neuralgia. The following is an instructive case, in which are exemplified some points we have before laid stress on; for here was a lady with an ever-present cause of irritation, suffering at long intervals only, and cured for a time by medicating the constitution, the irritation still remaining. A married lady, of

somewhat delicate constitution, complained of hemicrania; no cause could be detected; there was no loss of appetite, no exhausting discharge. Under the use of quinine she was cured in twenty hours. In a few weeks she had tic-douloureux in the eyeball, which assumed an intermitting character. This gave way to warmth, steel, and the use of Pulvermacher's chain. In a few weeks more the tic attacked first one cheek and then the other. A tooth was now found to be tender, but to the eye it appeared perfectly healthy, and there was no purulent discharge from the alveolus. Quinine and galvanism again effected a cure. In a few weeks more the tic affected the lower jaw, and was cured in an instant by an electric shock. By-and-by the whole teeth ached, and were excessively tender. Steel in full doses cured this (morphia was tried, but disagreed with the stomach). At the end of about two years, from the time the first symptoms were complained of, the patient was induced to part with the tender tooth, a back molar; a curious round, smooth hole was found on the posterior aspect, and out of sight, which went as far as the pulp. The pains at once disappeared, and never returned.

If any organic uterine affection exists, appropriate remedies must be employed; but as a general rule, constitutional means are to be preferred to local ones, and the latter only resorted to when the former have failed.

Profuse leucorrhœa is a common cause of debility, muscular and nervous affections. This is best treated, when habitual, by the cold hip-bath and the daily use of astringent applications. The best method to employ these is to use a sponge fastened on a sufficiently strong rod of gutta-percha, having a button at the end like that of a fencing-foil; the gum being yielding, is far preferable to a piece of wood; the button prevents the sponge coming off. The instrument is first to be introduced moistened only with water, so as to clean the passage of all mucus; it is subsequently to be immersed in a strong solution of alum (an ounce to a pint of water), and slowly passed to the end of the vagina and withdrawn. The advantage of this plan over the use of injections is very marked.

Where the leucorrhœa comes on after the catamenial discharge, and is very profuse, a blister to the sacrum, and the internal use of copaiba in full doses, will often operate an immediate cure.

For fuller information on all these points we must refer to obstetric writers.

CHAPTER XV.

Treatment of confirmed cases — Necessity for tact, knowledge, experience, and confidence — The advantage of giving *definite* hopes — To impart these the doctor must have definite ideas — Influence of hope and despair — Examples — Influence of new remedies in the hands of their discoverers — Of their adopters — Application — Rest of body — Mind — The senses — Rest for the bowels — The stomach — The uterus — Nausea and vomiting to be relieved by champagne, chloroform, &c. — Antispasmodics are only of temporary utility — The mind is to be supported — Method of management — The proposed treatment in a bad case detailed — Conclusion.

We now come to speak of the treatment of those cases in which the patient has been a long time suffering before coming under our care, and is in an extremely enfeebled condition, or the victim of some sort of indigestion, vomiting, &c.

Our mission here is one of extreme difficulty, and requires the greatest tact, knowledge, and firmness in its execution.

We must form to ourselves as accurate an estimate as possible of what art and medicine can effect; we must form a similar estimate of what medical science cannot do; and, above all things, we must consider the duration of time which must elapse ere the patient can be restored to perfect health; in other words, the physician must make a survey of the ground, and, like a medical Tod-

leben, make his dispositions accordingly. As the engineer knows that fortifications or siege-works require time for their execution, which time he can estimate with tolerable precision, making all allowances for sallies from the enemy, so the practitioner ought to be able to tell with comparative accuracy the length of time required to regain health, even making allowances for accidental or new symptoms.

When this estimate has been made the patient should be informed of it; and the grounds on which the judgment is formed should be explained. The advantage of this straightforward plan of proceeding has scarcely been sufficiently recognised. The practitioner has been contented with the expression of vague hopes of recovery; he says, perchance, to the sufferer, "You will be better *soon*," if you do this or that. His interpretation of the word, however, differs from that of the patient; she anticipates a restoration in a week, a fortnight, or a month. He has no fixed limit at all. With her, *to-morrow* is the day after the one in which the word was uttered; with him, to-morrow always means a day in prospect.

The effect of this practically is, that as long as the supposed definite period has not been reached, there is hope, confidence, and bright anticipation; as soon as it has passed without marked relief, there is distrust, depression, and distress.

If you tell the sufferer that she must expect one, two, or three months to elapse ere she recover,

sketch the various phases of the complaint likely to be noticed; tell her the difficulties attending each new symptom, and the determination you have of still piloting her in an almost undeviating line to health, you will receive a sustained confidence up to the period you have named. With a definite end in our own mind, you will soon generate a similar steadfastness in your patient, and this of itself is no slight element of cure.

The importance of the two opposite emotions, hope and despair, have long been recognised in the abstract; but they have not hitherto been sufficiently regarded in the treatment of disease.

We could give cases from our own experience in which patients given over, by their own doctor, to death, have gone steadily on the road thither, sped chiefly by his dictum, but who, on the apparition of another, whose face, at first grave, has become bright and confident, have incontinently left their beds, and entered with joyous vigour into the world again.

We could tell of the mortality of retreating armies, the tenacity of life in the victorious soldiery. We might recal to memory the wonderful influences of fanaticism and saintly intervention in the arrest of plague, fever, and "black death," and the heart-thrilling accounts of Lieutenant Pim's arrival on the scurvy-stricken seamen of M'Clure's ship; but we prefer dwelling on the more strictly practical points which so nearly concern "the Profession."

Let us turn to any book we will, which promulgates a new doctrine, or proposes a new means of curing disease, and we invariably find that the author has a larger amount of success than any of his followers. No matter what the medicine used, whether it is hemlock, creosote, antimony, calomel, prussic acid, aconite, lobelia, ipecacuanha, cotyledon, brandy-and-salt, taraxacum, or the like,—whether the system adopted is a new one, such as metallic tractorism, animal magnetism, electricity, galvanism, hypnotism, mesmerism, homœopathy, hydropathy, kinesipathy, the grape cure, the rarefied or condensed-air cure, Coffinism, Morisonianism, &c.,—whether it is a reference of all complaints to a want of bile, or of gastric juice, or to a redundance of bile, to irritation of the kidney or disease of the heart, to repressed itch or ulcer of the uterus, it is of no matter whatever, as long as the patient is ignorant of the theory (or at any rate unable to judge correctly about its truth or falsehood), and the apostle of the new doctrine is ardent, enthusiastic, and confident! But when the theory is no longer a novelty, and its expounder lacks the fanatic energy of its founder, it naturally sinks, and often never to rise again. The unbounded trust reposed in every new doctrine is a frailty so well known, that it is a source of astonishment that so few practitioners recognise the truth it contains, or, if they do, act in accordance therewith.

They visit their patients as a veterinary surgeon does a horse; they examine the symptoms, say a few words stereotyped on their tongue—"Oh, you will soon be better; I am going to send you some physic, which you will take according to directions;" and then, after having said to the friends whether or not there is danger to life, go away, thinking that *the medicine* is to do the rest. The patient, knowing nothing herself of the cause of her suffering, and getting no explanation of it, broods over her troubles in her mind, and at the first failure of the drugs gives way to a species of despair.

No wonder that disappointment follows.

For a doctor to be successful in nervous affections, he must be bright, firm, confident, and explicit; he must show that he knows the value of every symptom, and is able to explain it without a mist of words that mean nothing; he must prove that he knows what he has to do, that he knows how to do it, the time it will require, and the difficulties he will meet with.

Such an one gains unlimited confidence; and his voice, his face, his manner, are all of them worth many a dose of the most vivifying medicine.

Without this confidence success is extremely doubtful.

The bearing of this view is not, in some points, so satisfactory as could be wished for our profession, for it would dictate that the doctor who has

not the power to inspire his patient with confidence, whether in himself or his art, is bound at once to consign him to another in the same or in a different line who has the envied faculty. The allopath must be willing to give way to the hydropath, the homœopath, or the Coffinite; and he will sometimes have to swallow the bitter pill of knowing that they have succeeded where he has failed. Under these circumstances, however, it is no small consolation to know that the confidence of a patient in a new system affords no valid argument in favour of its truth.*

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* An amusing proof of this is to be seen in an episode in the history of nitrous oxide, or laughing-gas. Its wonderful properties led to a very natural expectation that it would be useful in medicine. A very distinguished physician, having first well primed his patient with accounts of the amazing results to be expected, brought a paralytic to the laboratory of Dr. Priestley, its discoverer. Many learned men were present, and amongst others (if I remember rightly) Dr. Wollaston. He wanted to ascertain if there would be any increase of temperature in the blood or body by the inhalation of a large dose of oxygen, and placed, for this purpose, a thermometer under the man's tongue. He, thinking that this was the process he had come for (it was in A.D. 1776), started, and said he felt the influence already, and could move his arm slightly. The doctors "tipped the wink" all round, and looked on with increasing interest and gravity. The *séance* lasted fifteen minutes, the thermometer was then removed, and the man went away improved. Every second day he came to have the same process repeated, and in six weeks was considered cured. Of course, had the man happened to have inhaled the gas, that would have got the credit.

The homœopathists are constantly putting forward the success attending their plan of treatment as a proof of the value of the globules they employ. But a great many instances have come to the author's knowledge where waggish friends have substituted inert globules for those the patient was in the habit of taking.

In one instance success followed the cheat for three months. The

In the treatment, then, of confirmed nervous affections, we consider that confidence and hope hold the foremost place.

It is so difficult to assign the second place, that we must give the heads of other supplemental plans of treatment, without any very definite order.

Rest is of great importance—rest of body—even from conversation; rest of mind, rest for the nerves of special sensation, and rest from all irritants whatever; rest for a time from medicine.

For the first week "kitchen physic" alone is to be resorted to, and this is to be of the most judi-

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inert globules were made potent by *faith*. The patient was then told of the deceit; her faith was gone, and the potent globules became inert.

In another instance a cheat was *announced*, and the globules at once lost their power; but no substitution had been made! The infinitesimal dose was there in reality, but the *faith* in its value had departed.

In a third, a friend, weary of hearing the virtues of "nux" and "calx carbonica," and "mercurius," provided himself with a lot of sugar-of-milk globules, and took an opportunity to empty the whole of the medicine armoury of his friend, and to replace the stock with his equally harmless supply. The zest with which he now listens to the marvels of "bryonia," "graphite," "arnica," is a rich treat, and one that he has not yet spoiled by telling the secret.

The impossibility of really knowing whether globules are potent or not—*i. e.*, whether they really contain any of the medicine supposed, will, when the world has had a little more time to get reasonable, afford a strong argument against the claims of so extraordinary a doctrine as that the value of a medicine increases in proportion to its proximity to nonentity!

It is an interesting fact that the most ardent disciple of one new "pathy" becomes, after a variable period, equally ardent respecting another, and another; showing that his confidence in each wanes in direct proportion to his familiarity with it and the amount of pretensions of the new one.

cious kind. Egg and wine, soup, beef-tea, fruits, good toasted cheese, madeira, champagne, ice, soda-water and brandy, cream, jelly, blanc-mange, tipsy cake; anything tasty, light, and digestible is to be adopted in small quantities and at short intervals.

If the stomach is irritable, it must have a rest too, and the patient be sustained by enemata of beef-tea, mutton-broth, &c.

The bowels, too, must be let alone; and if the vagina or uterus have been invaded with the speculum and caustics, they, too, must have a holiday. Opiates are for a time to be shunned. Entertainment is to fall to the lowest point of dulness. Excitement is to be quenched by "wet blankets." Sympathy is to be frozen up; complaints are to fall on serpents' ears which are deaf to pity; and, to sum up, the patient must be put into nearly the same position as a plant. She must be tended, cherished, fed, and watched. At the end of a few days the powers remaining in the system may be estimated, and the tendencies of the constitution ascertained.

When medicines are administered, they must be confined to the tonic class,—five minims of tincture of the sesquichloride of iron in plenty of water, about every four hours; cod-oil in such quantities as the stomach will tolerate; or any other medicine not peculiarly unpalatable. Mercury is to be carefully avoided. When there is nausea and vomiting, champagne, brandy and soda-water,

chloroform with or without an alkali, or opium, are of great service. Special medicines are to be shunned, as distracting attention from the main point. Anti-spasmodics will relieve stomachic or intestinal cramp or spasm, but are only of temporary utility; by repetition they lose their efficacy, and they should therefore be reserved for great occasions. We have already stated that, where there is a tendency to muscular affections, great relief is obtained from artificial support; *mutatis mutandis*, the same is true of nervous affections, especially of a mental kind. The patient must not be left to herself; her will, though it may be obstinate, is actually weak; it must not be expected to originate a change. She is essentially to be compared to a naughty or wayward child, who, as long as he is unchecked, is unhappy in himself and a burden to others; but who, as soon as he feels under the eye of a strict parent or schoolmaster, can and does check himself, and follow any lead proposed to him. He requires the support of a stronger mind, and is not comfortable till he has it. So it is with the so-called hysterical people; they suffer in many a form, painful alike to themselves and others, until some master-mind teaches them unequivocally that they are under control; they are like young saplings, which require the help of a stake to keep them upright till they are strong enough to stand alone.

How this control is to be acquired and exercised

must necessarily vary with the nature of the symptoms and the tact and experience of the medical man. The great point to be attained (as it is with children) is that the doctor must be superior to the patient in every point where they come in contact, and let it be well known too. He must be able to read the truth or the falsity of every new symptom; detect and punish every attempt at imposition; never give way while administering the cold-douche, &c., until he is victorious; his word must be law; he must show little medical sympathy, and that of the most patronizing kind: in fine, he must be metaphorically the strict father, and he will soon influence his patient to be the happy child. The remarkable success of the late Dr. Jephson, of Leamington, is to be mainly attributable to the power he had in this respect.

To pass from generalities to particulars, let us inquire into the treatment most likely to be successful in the case we quoted from Dr. Griffin's work. We will take it up at the period when lifting the patient in a sheet produced such intense suffering as to make her half insensible for a week (p. 156).

We have to manage an intensely irritable cough, a very delicate stomach, and an extraordinary tendency to spasm in the voluntary muscles; we have so much agony from motion that the administration of enemata is out of the question. We examine the throat, and anticipate finding a relaxed

uvula, or some other affection capable of local medication; we find no evidence of disease of the lungs, of the heart, &c.

Once satisfied on these points, we assure our patient with all the earnestness and confidence that our complete understanding of the case entitles us to use, that she will be perfectly well in three months, if she will obey our orders implicitly; that the complaint arises entirely from the state of debility in which she is; that as her system regains its powers, her sufferings will lose their hold: but that, as she has doubtless read of persons who have been nearly dead of starvation, and who have really died from overgorging when they were in a land of plenty, so, she must expect that for her own sake, the progress towards restoration should not be too rapid; that it will be very slow at first, progress only being perceptible from week end to week end, or even at a longer interval, but that when once begun it will go on with gradually increasing rapidity, until she will be able to say she is better and better every day.

She must remain perfectly quiet in bed, without talking or other excitement. She is to have the throat medicated (by a solution gr. x. to ʒi. of nitrate of silver, applied every day, if anything is found which requires such treatment) by a solution (gr. ij. to ʒi.) of muriate of morphia applied over the larynx, to reduce the irritability of glottis, &c. A piece of lint wetted with the solution is to be

covered with gutta-percha and applied to the unabraded skin. For medicine, two minims of the tincture of iron is to be given every four hours in half an ounce of water.

The yolk of an egg is to be beaten up with equal parts of water and half an ounce of sherry or Madeira, and the half to be administered every hour and half, or two hours, both day and night. In a day or two, as the egg palled upon the taste, a thin gravy soup should be substituted, care being taken to avoid all very decided flavours. In a few days more, indeed, at any period the patient fancied it, cream and water sweetened should replace the other aliment, the quantity given at each time being kept very small. The wine, in half-ounce doses, should be continued at intervals, as it seemed to be required. When given alone, champagne should have the preference. Jelly, blanc-mange, &c. &c., might at any time replace any of the above. No matter what the aliment, it should be administered *without the slightest fatigue to the patient.* The medicine-spoon, or cup, answers well, but in practice I have found a long tube, bent at right angles, to answer better (they can be procured at any glass-blower's): the long leg should be about a foot long, the short four inches; the diameter of the tube one-third of an inch. To use it, the short leg is placed in the cup or glass, held *above* the level of the mouth, the long leg in the mouth. The smallest amount of suction converts it

into a syphon, and the patient drinks without greater trouble than an infant at the breast when "the flow" comes.

In addition, we should suggest gentle friction of the body with cod-liver oil, having first ascertained that the odour did not nauseate.

If vomiting come on, the stomach must have a rest, and then we must begin again with champagne, or sparkling hock or Moselle, or brandy and soda-water, or ice. If persistent, opium internally and an epithem of solution of morphia to the epigastrium will be most appropriate.

We should be content to leave the bowels alone for the first fortnight, or even a longer period.

As the patient increased in strength, she should increase the quantity of food taken, and increase the intervals between the meals. The dose of iron should be augmented. Solid food, well mixed, would at last take the place of liquids. The wine would be increased in quantity, and reserved for meal-times. Longer sleep would be allowed, and visitors to the sick-room might be encouraged.

The doctor's visit should be a daily one for the first week, that he might cheer up his patient, and encourage her through the first dreary steps of recovery; afterwards he must act according to his discretion.

As soon as the body could be moved without pain, enemata of beef-tea, &c., might be used;—and here we must suggest a modification of the ordi-

nary apparatus, which is of the greatest convenience; it is simply to substitute for the ordinary pipe and nozzle a tube of vulcanized india-rubber of the same diameter, but *at least a yard in length*, and a bulbous ivory nozzle. The bulb at the end, being passed beyond the sphincter, is retained by it, and the length of tube attached enables the attendant to give an injection *without the patient turning on her side*, the tube passing over or under one thigh; the water-basin may be on an adjoining table, and the bed-pan, if necessary, may be introduced ere the instrument is withdrawn.

As soon as the stomach was likely to bear it, cod-liver oil should be tried in full doses with the steel; or, dropping this, with brandy and water. When the patient could bear to be moved, she should have complete change from one room to another, and, if possible, have a different room for day and night. The old bed-chamber, associated with so much misery, should be discarded altogether. At first any attempt at exercise should not exceed such as an infant takes when learning to walk, and it should be increased very slowly, for the smallest over-exertion would reproduce the cramps. When the patient was able to sit up for a few hours, and the weather was fine, a short drive would be of service, but it must be in the recumbent posture. As soon as short drives could be borne, a complete change of air might be adopted; and where such a spot is accessible, there

is no watering-place near here so favourable as New Brighton, where, in addition to pure air, there is the mild excitement of seeing ships perpetually passing by day, and listening to the steamers thrashing the water at night. With the change of air, the tonics may probably be suspended, the food will gradually be increased in quantity, and ale or porter substituted for wine. The bowels must now be regulated by some very mild aperient and bitter. The daily amount of exercise may be increased, care being taken to alternate with it rest in the recumbent posture. If the patient is a female, exercise is to be moderated during the presence of the catamenia. Pleasant occupation is to be found, if possible, which will interest without exciting the mind, or will occupy the hands without fatiguing the arms, shoulders, or back.

When the Profession shall have recognised the principles we have attempted to lay down—when they begin to look with jealousy at every dose of calomel, antimony, or digitalis that they order —when they take for a starting-point the axiom that "disease implies debility," and "that everything which weakens a patient must impede his restoration to health"—when bleeding shall have been dismissed to the limbo of scientific fallacies, to be recalled only by some medical judge of supreme knowledge—when blisters become the rifle-shot of the experienced hunter, who never fires without a definite aim, rather than the

grape, canister, or the shrapnel-shot of the artillerist, who fires them comparatively at random —when purgatives are not considered panaceas, and salivation is not a refuge for the destitute of ideas—when active treatment gives way to scientific, and the general health is considered superior to the apparent health of any one organ—when medicines are considered as means to an end, and not as so many doses of bottled comfort—when the doctor recognises in recovery the result of a natural process rather than the imbibition of so many ounces of physic—when there is a thorough knowledge of what medicine can do, as well as what it cannot—when a discrimination is made between the effects of a disease and the effect of presumed remedies—when the natural history of each complaint becomes more generally known,—not only will the science of medicine be fixed upon a firm basis, but it will command a confidence that it has never yet fully deserved.

Heresies may be possible, but they never will be captivating.

At present the tendency of medical authors is to hold a magnifying-glass before particular organs, to discriminate between the minutest phases of their complaints, and to discuss the best plans for the relief of this or that symptom. What is wanted is a broad and comprehensive classification, in which life, health, vitality, and nutrition will form the genera, and diseases the species only.

The question that the physician will then propose to himself will be, how shall I restore the patient to health? not how shall I attack the complaint. When an organ has gone wrong, or an inflammation has set itself up, instead of punishing the former, and knocking down the latter, the system will be helped to put the one right and to get over the other. A difficulty will be "tided over" instead of being crushed, rapidity of cure, rather than an ultimate result will be the test of successful theory, and, oh! conclusion most disastrous, the more scientific the physician the smaller will be his emoluments!

THE END.

LONDON:
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