FRANCIS ANSTIE

NEURALGIA AND THE DISEASES THAT RESEMBLE IT

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Содержание

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PREFACE

I believe it will not be disputed that there was considerable need for an English treatise dealing rather fully with the subject of Neuralgia, and therefore I hope that the profession will be willing to give me a hearing. The present work, moreover, does not profess to be a mere compilation of standard authorities corrected down to the present time, but puts forward a substantially new view of the subject – at least, a view that has been only briefly sketched by me in an article that appeared, three years ago, in Reynolds's "System of Medicine." My principal object, in writing this volume, was to vindicate for Neuralgia that distinct and independent position which I have long been convinced it really holds, and to prove that it is not a mere offshoot of the Gouty or Rheumatic diatheses, still less a mere chance symptom of a score of different and incongruous diseases. In order to set the diagnosis of true Neuralgia from its counterfeits in the clearest light, it seemed advisable to draw separate pictures of each of the latter (at least of as many as

are of real importance) and present them separately, as a kind of gallery of spurious neuralgias, and this I have done in the second part of the volume. No one who had not tried to do it would imagine how difficult this latter kind of work is. It was necessary for the sketches to be very brief (unless my book was to become unmanageably large), and yet to be as truthfully characteristic as possible; and it was necessary also that only those diseases which so much resemble Neuralgia as practically to lead medical men astray in diagnosis, should be dealt with. The selection of the subjects, and the execution of this part, took a long time, though it only covers about fifty pages. Then, as regards Neuralgia itself, it became necessary to completely recast the chapters on "Pathology" and on "Complications," on account of some of the polite criticisms which Dr. Eulenburg directed (in his recent "Lehrbuch der Nervenkrankheiten") to my argument in the article above referred to, since it was obvious that a too brief statement of my views had caused them to be partially misunderstood by the German physician. These chapters (Part I., Chapters II. and III.) are certainly the most important portion of my book, and I would particularly direct attention to them, in order that their contents may be affirmed or corrected: the reader will at any time find that they contain a kind of investigation never before systematically carried out with regard to Neuralgia. The causes above mentioned, together with others over which I had no control, have kept back the appearance of this work so long beyond the date for which it was originally announced, that I

feel I ought to apologize for an amount of delay that would seem hardly justified by the moderate size of the volume.

16 Wimpole Street, London, *October* 1, 1871.

INTRODUCTION.
ON PAIN IN GENERAL

Although it is, in a general way, unadvisable to introduce abstract discussions into a treatise which should be strictly practical, it is almost impossible to avoid some few general reflections on the physiological import of Pain, as a preliminary to the discussion of the maladies which form the subject of this volume. This whole group of disorders is linked together by the fact that pain is their most prominent feature; and, with regard to most of them, the relief of the pain is the one thing required of the physician. It seems, therefore, very important that we should ascertain, at least approximately, in what the immediate state consists, which consciousness interprets as pain. It is not necessary to enter at this stage into any inquiry as to the pathological causes of the phenomenon; what we know of these, and it is unfortunately too little, will be discussed in detail under the headings of the several affections which I shall have to describe.

The question before us now is this: What is that functional state of the nerves which consciousness interprets as pain? Is it, or is it not, an exaltation of the ordinary function of sensation?

The latter question is generally answered affirmatively, without much thought, by those to whom it casually occurs; but

indeed there is plenty of prescriptive authority for so dealing with it. Pain has been described by some of the most distinguished writers on nervous diseases as a hyperæsthesia. Yet there is really little difficulty in convincing ourselves, if we institute a thorough inquiry into the matter, that pain is certainly not a hyperæsthesia, or excess of ordinary sensory function, but something which, if not the exact opposite of this, is very nearly so.

The leading fallacy in the common view is the confusion which is perpetually being made between function and action. Now, the function of individual nerves is very nearly a constant quantity, at least, it varies only within narrow limits; while the action of the same nerves may be almost any thing. The function of the nerve is that kind of work for which it is fit when its molecular structure is healthy; it is the series of dynamic reactions which are necessarily produced in nerve-tissue by the external influences which surround and impinge upon it in the conditions of ordinary existence. The action of nerves, under the pressure of extraordinary influences, may include all manner of vagaries which really have nothing in common with the effects of ordinary functional stimulation; which are, in fact, nothing but perturbation. No one can suppose, for instance, that the explosive disturbances of nerve-force which give rise to the convulsions of tetanus are any mere exaggerated degree of the orderly and symmetrical action by which the healthy nerve responds to the stimulus of volition ordering a given set of muscles to contract; they are something quite different in kind. And so it is with the

sensory nerves. The functions of these conductors, in health, is to convey to the perceptive centres the sensations, varying only within a most limited range, which correspond to a state of well-being of the organs, and which excite only those reflex actions that are necessary to life. Thus the large surface of sensitive nerve terminals which is represented by the collective peripheral branches of the fifth cranial conveys to the medulla oblongata an impression, derived from the temperature and movement of the surrounding air, when the latter is neither too hot nor too cold, which imparts to the brain a perception of comfortable sensations, and excites in return the reflex action of breathing, which is necessary to life. But the impression produced on this same peripheral expanse of nerve-branches by prolonged exposure to cold wind may, and often does, convey to the centres sensations which are quite different and provokes reflex movements which are altogether abnormal. Pain is the product in one direction; sneezing, perhaps, in the other. It seems absurd to say that sneezing is any part of the function of those motor nerves whose action regulates the performance of expiration. And it appears to me not less absurd to say that pain is the function of the sensitive fibres of the trigeminus. But the best way, perhaps, to illustrate the looseness and incorrectness of applying the term "hyperæsthesia" (implying exalted function) to the state of sensitive nerves when suffering pain, is to examine the condition of distinctive perception in the very same parts to which the painful nerves are distributed. It will invariably

be found, as we shall have occasion to see more fully proved hereafter, that, in parts which are acutely painful, a marked bluntness of the tactile perceptions can be detected. The tactile perceptions are, no doubt, conveyed by an independent set of fibres from those which convey the sense of pain.[1] Yet it is surely impossible to believe the effect of the same influence, in functional power can be different – much more than it can be exactly opposite – in the two cases.

If pain be not a heightening of ordinary sensation, then we seem to be shut up to the idea that it is a perversion owing to a molecular change of some part of the machinery of sensation which frustrates function. For it is to be observed that, while the sensations conveyed by the healthy nerve are correct in the indications which they afford to the percipient brain, the indications given by pain are vague and untrustworthy, and often seriously misleading. Not to speak of the nerves of special sense, or of the fibres which convey the sensations of muscular movement, even the nerves of common sensation do carry to the internal perception, in health, a distinct impression of the well-being of the organs to which they are distributed. Mr. Bain[2] has well pointed out the positive character of this feeling, which is

[1] See, on this subject, some remarks, in my work on "Stimulants and Narcotics" on Sir W. Hamilton's "Theory of the Relations of Perception and Common Sensation."A very distinct and careful statement of the distinction between pain and hyperæsthesia will be found in a prize essay "On Neuralgia" by M. C. Vanlair, Jour. de Bruxelles, tom. xl., xli., 1865.

[2] "Senses and Intellect."

so often incorrectly referred to as if it were a mere negation of feeling. It is a sensation of equable and diffused comfort, if I may be allowed to use the expression, which streams in from all parts of the organism; and there is no possibility of comparing it, in any scale of less or more, with the sensation of pain; for the latter commonly conveys no correct information as to the organ from which it proceeds, or appears to proceed. Especially is this the case in the neuralgias, for more commonly than not the apparent seat of the pain is widely removed from the actual seat of the mischief which causes it.

If we inquire a little further into the circumstances under which various kinds of pain occur, we gain some fresh suggestions. Among the neuralgias, those are the most acutely agonizing which occur under circumstances of impaired nutrition incident to the period of bodily decay, and strong reasons will be hereafter adduced for the belief that there is especial impairment of the nutrition of the central end of the painful nerves. To find a parallel to the severity of this kind of pains we must turn to the case of organic tumors, which, from their position, structure, and mode of growth, necessarily exercise continuous and severe pressure on the branches or the trunk of a nerve; or to the class of pains which attend severe cramp, or tonic contraction of muscles. Now, it can scarcely be doubted that in the latter instance there is an abnormally rapid and violent destruction of tissue going on; at the very least there is an extraordinarily violent and irregular manifestation

of motor force. In any case the patent fact here is dynamic perturbation of a severe kind; and, in the instance of organic tumors exercising steady and continuously increasing pressure on nerves, one can scarcely doubt that a similar perturbation, less intense but more enduring, is necessarily set up. That which can be done in the way of producing severe pain by these severe affections of the peripheral portions of nerves, or of tissues lying outside them, we might *a priori* expect would be effected by slighter but continuous changes in the nutrition of the more important portion of the nerve itself – its central gray nucleus. One would say that a pathological process which continuously and progressively lowered the standard of nutrition here must interfere from hour to hour, certainly from day to day, with that regular and equable distribution of force which is the essence of unimpeded function.

Take, again, the case of the very severe pain which frequently attends inflammation of the pleura and of the peritoneum. Whatever theory of the causation of these pains we may adopt, it is certain that one most important element in their production and maintenance is the continual movement and friction of the affected parts. But there is little doubt that the moving muscles are involved in the inflammatory process, as Dr. Inman has correctly observed. It would seem plain that under these circumstances – an inflamed muscular structure forced to perform its ordinary contractions as well as it can – there must be powerful dynamic perturbation going on.

If perturbation of nerve-function – a disturbance quite different from mere exaltation of the normal development of nerve-force – be the essence of pain, how comes it that pains of the severest type may be produced by changes in structures which are usually described, for practical purposes, as lying outside the nervous system? We must, in the first place, remark that the externality of any bodily tissue to the nervous system is more apparent than real. Microscopic researches are constantly revealing nerve-fibres, in ever-increasing profusion, which penetrate to parts seemingly the least vitalized in the organism. But, in any case, the nerves are certainly the ultimate channel of communication between the suffering part and the sentient centre. It seems, therefore, the inevitable conclusion that a dynamic perturbation going on in the non-nervous tissue is continued along the nerves themselves: and that the severity of the pain perceived by the conscious centres is proportionate to the tumultuousness, the want of coordination, and the waste with which force is being evolved in the cramped muscle, or whatever structure it may be, in which the pain takes its source.

Not to pursue these topics further, we may sum up the considerations which have now been adduced, in the following general propositions, which will tend to simplify the examination of the various painful disorders which we are about to discuss:

1. Pain is not a true hyperæsthesia; on the contrary, it involves a lowering of true function.

2. Pain is due to a perturbation of nerve-force, originating in

dynamic disturbance either within or without the nervous system.

3. The susceptibility to this perturbation is great in proportion to the physical imperfection of the nervous tissue, until this imperfection reaches to the extent of cutting off nervous communications (paralysis).

PART I.
ON NEURALGIA

CHAPTER I.
CLINICAL HISTORY

Neuralgia may be defined as a disease of the nervous system, manifesting itself by pains which, in the great majority of cases, are unilateral, and which appear to follow accurately the course of particular nerves, and ramify, sometimes into a few, sometimes into all, the terminal branches of those nerves. These pains are usually sudden in their onset, and of a darting, stabbing, boring, or burning character; they are at first unattended with any local change, or any general febrile excitement. They are always markedly intermittent, at any rate at first; the intermissions are sometimes regular, and sometimes irregular; the attacks commonly go on increasing in severity on each successive occasion. The intermissions are distinguished by complete, or almost complete, freedom from suffering, and in recent cases the patient appears to be quite well at these times; except that, for some short time after the attack, the parts through which the painful nerves ramify remain sore, and tender to the touch. In old-standing cases, however, persistent tenderness, and

other signs of local mischief, are apt to be developed in the tissues around the peripheral twigs. Severe neuralgias are usually complicated with secondary affections of other nerves which are intimately connected with those that are the original seat of pain; and in this way congestions of blood vessels, hypersecretion or arrested secretion from glands, inflammation and ulceration of tissues, etc., are sometimes brought about.

The above is a general description of neuralgia which will identify the disease sufficiently for the purpose of introducing it the attention of the reader. We must now proceed to give a more accurate account of its

Clinical History and Symptoms.– These vary so greatly in different kinds of neuralgia that it will be necessary to discuss the greater part of this subject under the headings of the special varieties of the disease. There are certain common features, however, in all true neuralgias.

I. In the first place, it is universally the case that the condition of the patient, at the time of the first attack, is one of debility, either general or special. I make this assertion with confidence, notwithstanding that Valleix, and some other very able observers, have made a contrary statement. In the first place, it is certainly the case that the larger half of the total number of cases of neuralgia which come under my care are either decidedly anæmic, or else have recently undergone some exhausting illness or fatigue; and if other writers have failed to see so many neuralgic patients in whom these conditions were present, it must

certainly be because they have limited the application of the term "neuralgia" within bounds which are too narrow to be justified by any logical argument; as will, indeed, be shown at a later stage. On the other hand, although a considerable number of neuralgic patients have an externally healthy appearance, as indicated by a ruddy complexion and a fair amount of muscular development, it cannot be admitted that these appearances exclude the possibility of debility, either structional or functional, of the nervous system. The commonest experience might teach us that, so far from the nervous system being invariably developed with a corresponding completeness and maintained with a corresponding vigor to those which distinguish the muscular system and the organs of vegetative life, there is often a very striking contrast between these in the same individual. What physician is there who has not seen epileptic patients, in whom mental habitude, a low cranial development, imperfect cutaneous sensibility, and other obvious marks of deficient innervation, were marked and striking features at, or even before, the first occurrence of convulsive symptoms, while the body was robust, the face well colored, and the muscular power up to or beyond the average? Now, it will invariably be found, on carefully sifting the history of apparently robust neuralgic patients, that they, too, have given previous indications of weakness of the nervous system: thus, women, who, after a severe confinement attended with great loss of blood, are attached with *clavus hystericus* or with *migraine*; will inform us that whenever, in earlier life, they

suffered from headache, the pain was on the same side as that now affected, and chiefly or altogether confined to the site of the present neuralgia. In a considerable number of cases, also, in which I have been able to observe accurately the events which preceded an attack of neuralgia, it has been found that the skin supplied by the nerves about to become painful was anæsthesic to a remarkable degree; and it is very often the case that a more moderate amount of blunted sensation was perceptible in these parts during the intervals between attacks of pain. A somewhat delusive appearance of general nervous vigor is often conveyed to the observer of neuralgic patients, by reason of the intellectual and emotional characteristics of the latter. Both ideation and emotion are, indeed, very often quick and active in the victims of neuralgia, who in this respect differ strikingly from the majority of epileptics. But this mobility of the higher centres of the nervous system is itself no sign of general nervous strength; which last can never be possessed except by those in whom a certain balance of the various nervous functions is maintained. Much more will be said on this topic when we come to discuss the etiology of neuralgia. Meantime I may content myself with repeating the fact which is indubitably taught by careful observation – that neuralgics are invariably marked by some original weakness of the nervous system; though in some cases this defect is confined strictly to that part of the sensory system which ultimately becomes the seat of neuralgic pain.

Another circumstance is common to all neuralgias of

superficial nerves; and, as a large majority of all neuralgias are superficial in situation, this is, for practical purposes, a general characteristic of the disease. I refer to the gradual formation of tender spots at various points where the affected nerves pass from a deeper to a more superficial level, and particularly where they emerge from bony canals, or pierce fibrous fasciæ. So general is this characteristic of inveterate neuralgias, that Valleix founded his diagnosis of the genuine neuralgias on the presence of these painful points. Herein he appears to me to be decidedly in error. I have watched a great many cases (of all sorts of varieties as to the situation of the pain), and I have uniformly observed that in the early stages firm pressure may be made on the painful nerve without any aggravation of the pain; indeed, very often with the effect of assuaging it. The formation of tender spots is a subsequent affair: they develop in those situations which have been the foci, or severest points, of the neuralgic pain. There is however, a point which, though not always, nor often, the seat of spontaneous pain, is nevertheless very generally tender. Trousseau, who criticises unfavorably the statement of Valleix as to the situation of the points douloureux, insists that this tender spot, which is over the spinous processes of the vertebræ corresponding to the origin of the painful nerve, and which he calls the points apophysaire, is more universally present than any of those pointed out by Valleix. I shall hereafter endeavor to show that these spinal points are by no means characteristic of neuralgia; they are present in a variety of affections which

were ably described, under the heading of "Spinal Irritation," many years ago, by the brothers Griffin. ["Observations on the Functional Affections of the Spinal Cord," by William and Daniel Griffin. London, 1834] and they are also present with misleading frequency in cases of mere myalgia, such as I shall have to describe at a later stage.

Another characteristic of neuralgic patients in general is, I believe, a certain mobility of the vaso-motor nervous system and of the cardiac motor nerves; but I insist less on this than on the above-named features, because a more extended experience is necessary to establish the fact with certainty. Within my own experience it has always seemed to be the case that persons who are liable to neuralgia are specially prone to sudden changes of vascular tension, under emotional and other influences which operate strongly on the nervous system. The observation of this fact has been made accidentally, without any previous bias on my part, in the course of a large number of experiments made upon individuals free from manifest disease at the time, with Marey's sphygmograph.

Neuralgic attacks are always intermittent, or at the least remittent, in every stage of the disease.

The manner in which neuralgic pain commences is characteristic and important. There is always a degree of suddenness in its outset. When produced by a violent shock, it may, and often does, spring into full development and severity at once, of which, perhaps, the most striking example is the

sudden and violent neuralgic pain of the eyebrow which some persons experience from swallowing a lump of undissolved ice. Usually, however, the first warning is a sudden, not very severe, and altogether transient dart of pain. The patient has probably been suffering from some degree of general fatigue and malaise, and the skin of the affected part has been somewhat numb, when a sudden slight stitch of pain darts into the nerve at some point which corresponds to one of the foci hereafter to be particularized. It ceases immediately, but in a few seconds or minutes returns; and these darts of pain recur more and more frequently, till at last they blend themselves together in such a manner that the patient suffers continuous and violent pain for a minute or so, then experiences a short intermission, and then the pain returns again, and so on. These intermittent spasms of pain go on recurring for one or several hours; then the intermissions become longer, the pain slighter, and at last the attack wears itself out. Such is generally the history of first attacks, especially in subjects who are not past the middle age, nor particularly debilitated from any special cause.

A point of interest in connection with the natural history of the neuralgic access is the condition of the circulation. The commencement of pain is generally preceded by paleness of skin and sensations of chilliness. At the commencement of the painful paroxysm, sphygmographic observation shows that the arterial tension is much increased, owing, in all probability, to spasm of the small vessels. This condition is gradually replaced by an

opposite state, the pulse becoming large, soft, and bounding, though very unresisting, and giving a sphygmographic trace which exhibits marked dicrotism. Simultaneously with this the skin becomes warmer, sometimes even uncomfortably warm, and there is frequently considerable flushing of the face.

The final characteristic common to all neuralgias is that fatigue, and every other depressing influence, directly predispose to an attack, and aggravate it when already existing.

Varieties.– It is possible to classify neuralgias upon either of two systems: first (*a*), according to the constitutional state of the patient; and, secondly (*b*), according to the situation of the affected nerves. It will be necessary to follow both these lines of classification, avoiding all needless repetition.

(*a*) In considering the influence of constitutional states upon the typical development of neuralgia, it will be convenient to commence with the group of cases in which the general condition of the organism produces the least effect. This is the case when the pain is the result of direct injury to a nerve-trunk, whether by external violence, by the mechanical pressure of a tumor, or by the involvement of a nerve in inflammatory or ulcerative processes originating in a neighboring part. As regards the development of symptoms, the important matters are, that the pain in these cases commences comparatively gradually, that the intermissions are usually more or less complete, and that the pain is far less amenable to relief from remedies, than in other forms of neuralgia. The little that can be said about the form

which is dependent upon progressively increasing pressure, or involvement of a nerve in malignant ulcerations, caries of bones or teeth, etc., falls under the heads of Diagnosis and Treatment, and need not detain us here. The clinical history of neuralgia from external violence, however, requires separate discussion:

1. Neuralgia from external shock may be produced by a physical cause (as by a fall, a railway collision, etc.), which gives a jar to the central nervous system; or by severe mental emotion, operating upon the same part of the organism. Under either of these circumstances the development of the affection may occur at once, but by far the most frequently it ensues after a variable interval, during which the patient shows signs of general depression, with loss of appetite and strength. Sometimes vomiting, and in other instances paralysis, of a partial and temporary kind, occur. When once developed, the neuralgic attacks do not differ from those which proceed from causes internal to the organism. In the greater number of instances, so far as my experience goes, it is the fifth cranial nerve which becomes neuralgic from the effects of central shock. Illustrative cases will be given in the section on Local Classification. Meantime the important facts to note, in relation to the influence of constitutional states, are these: In the first place, the tendency of such accidents to excite neuralgia varies directly with the hereditary predisposition evinced by the liability of the sufferer's family to neuralgic affections and to the more serious neuroses. Secondly, the likelihood of a neuralgic attack is indefinitely

increased if he has already had neuralgia. Thirdly, although debility from temporary and special causes can rarely be sufficient to insure a true neuralgic access after a severe shock, it probably heightens, indefinitely, the tendency in a person otherwise predisposed. Delicate women are many times more liable to experience such consequences, from a physical or mental shock, than men of tolerably robust constitution.

2. Neuralgia from direct violence to superficial nerves is produced by cutting or, more rarely, by bruising wounds. Cutting wounds may divide a nerve-trunk (*a*) partially, or (*b*) completely.

(*a*) When a nerve-trunk is partially cut through, neuralgic pain occurs, if at all, immediately, or almost immediately, on the receipt of the injury. One such instance only has come under my own care, but many others are recorded. In my case the ulnar nerve was partly cut through, with a tolerably sharp bread-knife, not far above the wrist; partial anæsthesia of the little and ring fingers was induced, but at the same time violent neuralgic pains in the little finger came on, in fits recurring several times a day, and lasting about half a minute. Treatment was of little apparent effect in promoting a cure; though opiates and the local use of chloroform afforded temporary relief. The attacks recurred for more than a month, long after the original wound had healed soundly; and, for a long time after this, pressure on the cicatrix would reproduce the attacks. A slight amount of anæsthesia still remained, when I saw the patient more than a year after the injury.

(*b*) Complete severance of a nerve-trunk is a sufficiently common accident, far more common then is neuralgia produced by such a cause; indeed, so marked is this disproportion between the injury and the special result, that I have been led to infer that a necessary factor in the chain of morbid events must be the existence of some antecedent peculiarity in the central origin of the injured nerve. This opinion is rendered the more probable because the consecutive neuralgia is in some cases situated, not in the injured nerve itself, but in some other nerve with which it has central connections. Two such cases are recorded in my Lettsomian Lectures, [*Lancet*, 1866], in which the ulnar nerve, and one in which the cervico-occipital, were completely divided; in all three the resulting neuralgia was developed in the branches of the fifth cranial. Here we may suppose that the weak point existed in the central nucleus of the fifth; and that the irritation, or rather depression, communicated to the whole spinal centres by the wound of a distant nerve, first found, on reaching this weak point, the necessary conditions for the development of the neuralgic form of pain, which therefore would be represented to the mental perception as present in the peripheral branches of the fifth nerve. In all the cases which have come under my notice, the neuralgia set in at a particular period, namely, after complete cicatrization of the wound, and while the functions of the branches on the peripheral side of the wound were partly, but not completely, restored. The same obstinacy and rebelliousness to treatment are observed as in other instances of neuralgia from

injury.

One of the cases above referred to may here be briefly detailed, as it shows very completely the clinical history of such affections. C. B., aged twenty-four, an agricultural laborer, applied for relief in the out-patient room of Westminster Hospital, suffering from severe neuralgic pains of the forehead and face of the left side. Then pains were felt in the course of the supra-orbital, ocular, nasal, and supra-trochlear branches, and also in the cheek, appearing, there, to radiate from the infra-orbital foramen. They had commenced about three weeks previously to the patient's first visit to the hospital, and about six weeks after the accident which appeared to have started the whole train of symptoms. This was a cutting wound, evidently of considerable depth as well as external size, toward the back of the neck, and so situated that it must have divided the great occipital nerve of the left side: and, from the man's account of the numbness of the parts supplied by the nerve which immediately followed the wound, there could be no doubt that this had occurred. There was no acute nerve-pain, either during the healing of the wound, which was rapid, or subsequently, until more than three weeks from the date of the injury; at this time there was still a considerable sense of numbness in the skin of the occipital and upper cervical region; but there now commenced a series of short paroxysms of pain in the forehead of the same side. These at first occurred only about twice daily, at regular intervals; the pain was not very sharp, and only lasted

a minute or two. The attacks rapidly increased in frequency and duration, however, and extended their area. At the time when I first saw the case the pain was very formidable, it recurred with great frequency during the day, but would sometimes leave the patient free for several hours together. The site of the wound was occupied by a firm cicatrix of about a line in breadth and an inch and a quarter in length; pressure on this excited only a vague and slightly painful tingling in the part itself, but severely aggravated the trigeminal pains, or reproduced them if they happened to be absent. The regions supplied by the great occipital nerve were still very imperfectly sensitive. This patient gave me a great deal of trouble. He continued for many weeks under my care, and I can scarcely flatter myself that any of the numerous remedies which I administered internally, or applied locally, had any serious effect in checking the disorder. The subcutaneous injection of morphia gave some relief, as it always does, but this seemed to be perfectly transitory; and, although when the patient ceased to attend the hospital he was decidedly better, I cannot imagine that there was anything in it except the slow wearing out of the neuralgic tendency, very much without reference to the administration of any remedies.

The description of neuralgia from injury would be incomplete without some special words on a variety of this affection which has only very recently been described with that fulness which it deserves. I refer to the pains which are produced by gunshot injuries of nerves, received in battle, of which no sufficient

account had been given until the publication of the experience of Messrs. Mitchell, Moorehouse, and Keen, in the late American civil war.[3]

From the interesting treatise of the above-named writers it appears that not merely is neuralgia of an ordinary type a frequent after-consequence of wounds, but that certain special pains are not unfrequently produced. In the more ordinary instances, pain is of the darting, or of the aching kind; and all writers on military surgery, who have recorded their experience of the results of wounds received in battle, have spoken of affections of this kind, for the most part singularly severe and obstinate, and in not a few recorded instances clinging to the patient during the remainder of his life. These pains may at times leave the sufferer, but they infallibly recur when from any cause his health is depressed, and it is an especially common thing for them to be evoked in full severity under the influence of exposure to cold, and particularly to damp cold.

But the American writers introduce us to another and more terrible neuralgia which is a, fortunately, less frequent result of serious injuries to nerves. They speak of it as a burning pain of intense and often intolerable severity; they believe that it seldom if ever originates at the moment of the injury, but rather at some time during the healing process; and it is especially noteworthy that it is sometimes felt not in the nerve actually

[3] "Gunshot Wounds and other Injuries to Nerves." Philadelphia: Lippincott & Co., 1864.

wounded, but in some other nerve with which it has connections. After it has lasted a certain time, an exquisite tenderness of the skin is developed, and a peculiar physical change of skin-tissue occurs; it becomes thin, smooth, and glossy. It is a remarkable fact that these burning pains which are so definitely linked with a nutrition-change of skin are never felt in the trunk, and rarely in the arm or thigh, not often in the forearm or leg, but commonly in the foot or hand; and the nutrition changes of the skin are generally observed on the palm of the hand, the palmar surface of the fingers, or the dorsum of the foot; rarely on the sole of the foot or the back of the hand. It is very interesting to remark that these skin-lesions correspond very nearly, not only to those observed in the cases of nerve-injury reported by Mr. Paget,[4] in which actual neuralgia was present (though the kind of pain is not exactly specified), but also very nearly with the nutritive changes observed by Mr. Jonathan Hutchinson in a number of cases of surgical injuries of nerves.[5] The tendency of neuralgic pain accompanied by nutritive lesions of the skin and nails to seat itself in the hands and feet will be hereafter noted in connection with the subject of the pains of locomotor ataxy and of those produced by profound mercurial poisoning. And it will be seen in the section on Pathology, that very important conclusions are suggested by the coincidence.

Joined with the burning pains, and the altered skin-nutrition,

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[4] *Med. Times and Gazette*, March 26, 1864.

[5] "London Hosp. Reports," 1866.

in the cases of gunshot injury of nerves which we are considering, there is nearly always a marked alteration in the temperature of the parts, either in one direction or the other. In the great majority of instances of ordinary neuralgia after wounds, this alteration is a very considerable reduction of the temperature of the parts supplied by the painful nerves; a change which corresponds with what appears in the vast majority of all cases of division of sensitive nerves, whether pain be set up or not. But, in all examples of the burning pain after injury, Messrs. Mitchell, Moorehouse, and Keen found the temperature of the painful parts notably elevated.

It would appear that there is no form of neuralgia more dreadful, and scarcely any so hopeless, as this burning pain coming on as a sequel to severe nerve injuries. It exercises a profoundly depressing effect upon the whole nervous tone; the most robust men become timid and broken down, and their condition is compared by the American writers to that of hysterical women.

There is another peculiar nutritive affection, first recognized as an occasional consequence of nerve injuries by Messrs. Mitchell, Moorehouse, and Keen, namely, an inflammation of joints, and, although we have no concern here with this symptom, it will be referred to hereafter as throwing interesting light on certain questions of pathology. Certain lesions of secretion will also be specially referred to under the heading of Diagnosis.

II. Neuralgias of Intra-nervous Origin. – As regards the

constitutional conditions with which the several varieties of neuralgia that arise independently of external violence, or disease of extra-nervous tissues, are respectively allied, the following preliminary subdivisions may be made:

1. Neuralgias of malarious origin.
2. Neuralgias of the period of bodily development.
3. Neuralgias of the middle period of life.
4. Neuralgias of the period of bodily decay.
5. Neuralgias associated with anæmia and mal-nutrition.

1. *Neuralgias of malarious origin* were formerly far more prevalent than they are at present, within the sphere of the English practitioner of medicine; with the general decline of malarial fevers, consequent on improved drainage and cultivation of lands, they have become constantly more scarce. The districts in which they still are found to prevail with any frequency are carefully specified in the interesting report of Dr. Whitley to the Medical Officer of the Privy Council, in the Blue-Book for 1863.

Of course, however, there are a considerable number of persons continually returning to England from countries where malarious diseases are common; and these often bear about with them the effects of paludal poisoning which occasionally exhibits itself in the form of neuralgia. Till very lately, however, I had not happened to come across such cases, although at one time and another I have seen and treated a good many persons returned from India and Africa, whence I judge that neuralgia with this special history is less common than many seem to

think. In former times, on the contrary, malarioid neuralgias were so common that they forced themselves on the notice of every practitioner. The term "brow-ague," to this day applied by many medical men to every variety of supra-orbital neuralgia, is a relic of the older experience on this point, as is also the very common mistake of expecting all neuralgic affections to present a distinctly rhythmic recurrence of symptoms.

In the year 1864 I published the statement[6] that, "in a fair sprinkling" of the cases of neuralgia which present themselves in hospital out-patient rooms, ague-poisoning may be suspected; but I was then speaking rather from hearsay than from my own experience, which, in fact, had yielded no clear cases of this sort of neuralgia, and was till just recently unable to reckon up more than two undoubted and one doubtful case of the affection, in all of which the fifth cranial nerve was unattacked. The periodicity in one of the genuine cases was regular tertian, in the other regular quotidian. A semi-algide condition always ushered in the attacks; but this was gradually exchanged, as the pain continued, for a condition in which the pulse was rapid and locomotive, but compressible, and the strength was further depressed. In both these cases there was unilateral flushing of the face, and congestion of the conjunctiva, to a slight degree, during the attack of pain. The pain became duller and more diffused contemporaneously with the lowering of arterial pressure; and, after the disappearance of active pain, moderate tenderness over

[6] "Stimulants and Narcotics," Macmillan, 1854, p. 86.

a considerable tract round the course of the painful nerves remain for some time. There was no distinct development of painful points in the situations described by Valleix; but it should be remarked that the cases were rapidly cured with quinine, which very probably accounts for this circumstance.

Till lately I had not witnessed neuralgia as an after-consequence of tropical malaria-poisoning, although I have had many cases of other diseases, the relics of hot climates, under my care; but within the last year I have seen a case of extremely severe intercostal neuralgia of a perfectly periodic type occurring in a patient whose constitution had been thoroughly saturated with tropical marsh poison, and in whom the spleen was still much enlarged. The neuralgia was so terrible, and accompanied by such severe algide phenomena at the beginning of the attacks, and such a sense of throbbing as the pain developed, as to lead to serious suspicions of hepatic abscess, for the moment; but the course of events soon corrected this idea.

2. *Neuralgias of the Period of Bodily Development.*– By the "period of bodily development" is here understood the whole time from birth up to the twenty-fifth year, or there-abouts. This is the period during which the organs of vegetative and of the lower animal life are growing and consolidating. The central nervous system is more slow in reaching its fullest development, and the brain especially is many years later in acquiring its maximum of organic consistency and functional power.

That portion of the period of development which precedes

puberty is comparatively free from neuralgic affections. At any rate, it is rare to meet in young children with well-defined unilateral neuralgia, except from some very special cause, such as the pressure of tumors, etc. Such neuralgias as do occur are commonly bilateral, and are connected either with the fifth cranial or the occipital nerves.

I must here mention an affection which was quite unknown to my experience, but was brought under my notice by the late Dr. Hillier, who kindly called my attention to the notes of two cases which were published in his interesting work on "Diseases of Children." The cases are those of two female children, aged nine and eleven respectively, in whom the principal symptom was violent and paroxysmal neuralgic headache. In both of these children the existence of cerebral tubercle was suspected, but this proved to be a mistake. In both there were intolerance of light, vomiting, tonic contraction of the muscles of the neck, and occasional double vision; but no impairment of intelligence, no amaurosis, and no paralysis or rigidity of the limbs. Each of these children died rather suddenly, after a violent paroxysm of pain. The main, indeed almost the only characteristic post-mortem change was a marked loss of consistence of tissue, in one case in the pons varolii, in the other in the pons, the medulla oblongata, and the cerebellum. These cases are of the highest possible interest, as are also several other instances of headache in children recorded by Dr. Hillier; notably one in which severe paroxysmal pains were attended with general

impairment of brain-power, and, on the occurrence of death from exhaustion, the autopsy revealed an amount of degeneration in the cerebral arteries (as also in the general arterial system) which was astonishing, considering that the child was only ten and a half years old. This case, the full significance and interest of which will be better seen when we come to discuss the subject of pathology, is an example of physical changes in the nervous system, which are usually delayed to an advanced period of life, occurring altogether prematurely, and bringing with them a kind of neuralgic pain which is far more common in the decline than in morning of life. It will be seen presently that functional derangements may be in like manner precociously induced, with the parallel effect of inducing such pains as are ordinarily the product of a later epoch.

From the moment that puberty arrives all is changed in the status of the nervous system. In the stir and tumult which pervade the organism, and especially in the enormous diversion of its nutritive and formative energy to the evolution of the generative organs and the correlative sexual instincts, the delicate apparatus of the nervous system is apt to be overwhelmed, or left behind, in the race of development. Under these circumstances, the tendency to neuralgic affections rapidly increases. It will, however, be seen later that there is a great preponderance of particular varieties of the disease during this time. This period is above all things fruitful in trigeminal neuralgias, especially migraine.

There remains to be noticed the fact that sexual precocity sometimes very much anticipates the peculiar characteristics of the period after puberty. It is well known that in too many instances children are led, by the almost irresistible influence of bad example, to indulge in thoughts and practices which are thoroughly unchildish, and which exercise a powerfully disturbing influence upon the nervous system. A child before the age of puberty ought to be distinguished (if moderately healthy in other respects) by the absence of any tendency to dwell upon his own bodily health. Under the influence of precocious sexual irritation he becomes hypochondriacal and self-centred, and often suffers, not merely from fanciful fears and fanciful pains, but from actual neuralgia, which is sometimes severe. The attacks of migraine which are a frequent affection of delicate children whose puberty occurs at the normal time, are a much earlier torment with children who have early become addicted to bad practices. It is an anticipatory effect upon the constitution, strictly analogous to the production of the so-called "hysteria" in little girls under similar circumstances; and I suppose there is no physician who has not once or twice, at least, met with cases of the latter kind. The existence of any severe neuralgic affection in a young child, if it cannot be traced to tuburcle or other recognizable or organic brain-disease is *prima-facie* ground for suspicion of precocious sexual irritation; though, as Dr. Hillier's cases show, it is occasionally produced otherwise. Usually, there are other features which assist in the discovery of

precocious sexualism, when it exists; there is a morbid tendency to solitary moping, and a moral change in which untruthfulness is conspicuous.

3. *Neuralgias of the Middle Period of Life.*– By this period is meant the time included between the twenty-fifth and about the fortieth or forty-fifth year. It is the time of life during which the individual is subjected to the most serious pressure from external influences. The men, if poor, are engaged in the absorbing struggle for existence, and for the maintenance of their families; or, if rich and idle, are immersed in dissipation, or haunted by the mental disgust which is generated by *ennui*. The women are going through the exhausting process of child-bearing, and supporting the numerous cares of a poor household, in some cases; or are devoured with anxiety for a certain position in fashionable society for themselves and their children; or again, they are idle and heart-weary, or condemned to an unnatural celibacy. Very often they are both idle and anxious.

It must not be supposed that there is a sharp line of demarcation between this period and the last; nevertheless, there are certain well-marked differences, both in their general tendencies, and as regards the local varieties which are commonest in each. We shall discuss the latter point farther on. At present, it is interesting to remark on the general freedom of the busy middle period of life from first attacks of neuralgia. A person who has had neuralgia previously may, and very likely will, during this epoch, be subject to recurrence of the old

affection under stress of exhaustion of any kind. But it is very rare, in my experience, for busy house-mothers or fathers of families to get first attacks of neuralgia during this period of life. It is not the way in which a still vigorous man's nervous system breaks down, if it breaks down at all. Men frequently do break down, of course, at an age when their tissues generally are sound enough, and there is no reason, except on the side of their nervous system, why they should not remain in vigorous health for years. But it is greatly more common for the nervous collapse to take the form of insanity, or hypochondriasis, or paralysis, then that of neuralgia. If a man has escaped the latter disease during the period when the growth of his tissues was active, it is not very often that he falls a victim to it till he begins, physiologically speaking, to grow old.

4. *Neuralgias of Declining Bodily Vigor.*– The period here referred to is that which commences with the first indications of general physical decay, of which the earliest which we can recognize (in persons who are not cut off by special diseases) is perhaps the tendency to atheromatous change in the arteries. The first development of this change varies very considerably in date; but whenever it occurs it is a plain warning that a new set of vital conditions has arisen, and especially notable is its connection with the characters of the neuralgic affections which take their rise after its commencement. The period of declining life is pre-eminently the time for severe and intractable neuralgias. Comparatively few patients are ever permanently cured who

are first attacked with neuralgia after they have entered upon what may be termed the "degenerative" period of existence. I mentioned the existence of commencing arterial degeneration as the special and most trustworthy sign of the initiation of bodily decay; but it is needless to say that this change is often not to be detected in its earliest stage. Something has been done of late years, however, to render its diagnosis more easy. Not to dwell upon the phenomenon of the arcus senilis, which though of a certain value is confessedly only very partially reliable, we may mention the sphygmographic character of the pulse as possessing a real value in deciding the physiological status of the arterial system. There is a well-known form of pulse-curve, square-headed, with marked lengthening of the first or systolic portion of the wave, and with an almost total absence of dicrotism, even when the circulation is rapid, which will often seem to assure us that atheromatous change of the arterial system has commenced, even when the physical characters of inelastic artery are not to be recognized with the finger in any of the superficial vessels by the touch of the finger. Indeed, the latter test is in all cases far less reliable than the sphygmographic trace, except when the arterial change has proceeded to a very marked degree of development.

To a certain extent, the presence or absence of gray hair is of value in deciding whether physiological degeneration has begun. Like the arcus senilis, however, this is only reliable when joined with other indications, for it may be a purely local and separate change, having nothing to do with the general vital status of the

body.

5. *Neuralgias which are immediately excited by Anæmia or Mal-nutrition.*– Of the neuralgic affections which can be reckoned in this class, the sole characteristic worthy of note is the circumstances in which they arise. It would seem that anæmia and mal-nutrition simply aggravate the tendency of existing weak portions of the nervous system to be affected with pain; just as they notoriously do aggravate lurking tendencies to convulsion and spasm. It is very common, for instance, for women to suffer severely from migraine, and other forms of neuralgia, after a confinement in which they have lost much blood. According to my own experience, however, those patients are generally, if not invariably, found to have previously suffered more or less severe neuralgic pain, at some time or other in their history, in the same nerves which now, under the depressing influence of hæmorrhage, have become neuralgic. One of the very worst cases of clavus which I ever saw happened after hæmorrhage in labor; the pain was so severe and prostrating that it appeared likely the patient would become insane. I discovered, on inquiry, that this woman had been liable for many years to headache affecting precisely the same region, on the occasion of any unusual fatigue or excitement.

There is, however, one variety of neuralgia from mal-nutrition which deserves special consideration, viz., that which is occasionally produced as an after-effect of mercurial salivation. I have only seen one instance of this affection, but several are

recorded. [Such, at least, is my impression, but I have not been able to find the reports of them.] My patient was a woman of somewhat advanced years when she first came under my notice, but her malady had (though with long intermissions) existed ever since she was a young girl in service. At that early date she was severely salivated by some energetic but misguided practitioner, for an affection which was called pleurisy, but (according to her description) might well have been only pleurodynia, to which servant girls are so very subject. At any rate, the consequences of the medication were most disastrous. Not only did she then and there lose every tooth in her head and suffer extensive exfoliations from the maxillæ, but after this process was over she began to suffer frightfully from neuralgic pains in both arms and in both legs. Tonic medicines and a change to sea-air brought about a tardy and temporary cure; but from that moment her nervous system never recovered itself. Whenever she took cold, or was over-fatigued, or depressed from any bodily or mental cause, she was certain to experience a recurrence of the pains. At the time of her application to me she was suffering from an attack of more than ordinary severity, and which had lasted a long time without showing any signs of yielding. She apparently could not find words to express the acuteness of her sufferings. All along the course of the sciatic nerve in the thigh, all down the course of the middle cutaneous and long saphenous branches of the anterior crural, in the musculo-spiral, radial, and the course of the ulnar nerves, and also, in a more generalized

way, in the gastrocnemii, in the soles of the feet, and in the palms of the hands, the pains were of a tearing character, which she described as resembling "iron teeth" tearing the flesh. The pains recurred many times daily; her life was a perfect burden to her, and always had been during these attacks. This patient was under my observation, on various occasions, during several years, and I established the fact that cod-liver oil always did very great good. But it was evident that nothing would remove the tendency to the recurrence of the pains. I should mention, as additional proof of the extent to which the mercurial poison had shattered the nervous system of this woman, that she had violent muscular tremors at the time of her first attack, and on several subsequent occasions. A more completely ruined life was never seen; the poor woman had been on the highway to promotion in the service of a nobleman when she was mercurialized, but her whole prospects were blighted by the serious danger to her health which was caused by the preposterous antiphlogisticism of her medical attendant.

I do not know that the poisonous action of any other metallic poison than mercury has been distinctly shown to produce neuralgic pains of superficial nerves. The action of lead is well known to produce colic, a disease which will be specially dwelt on elsewhere. And undoubtedly a certain amount of aching pain sometimes attends certain stages of lead-palsy of the extensor muscles of the forearm. But I know of no facts pointing to a true saturnine neuralgia. And the chronic poisonous effects of arsenic

on the nervous system seem to produce sensory paralysis, rather than pain.

We come now to the consideration of the local varieties of neuralgia. The primary subdivision of them may be made as follows:

I. Superficial Neuralgias. II. Visceral Neuralgias.

I. Superficial Neuralgias.

Of superficial neuralgias a further classification may be made:

(*a*) Neuralgia of the fifth (trigeminal, or trifacial).
(*b*) Cervico-occipital neuralgia.
(*c*) Cervico-brachial neuralgia.
(*d*) Intercostal neuralgia.
(*e*) Lumbo-abdominal neuralgia.
(*f*) Crural neuralgia.
(*g*) Sciatic neuralgia.

This arrangement is that of Valleix, and appears to me substantially correct.

(*a*) *Neuralgia of the Fifth*. – The most important group of neuralgias are those of the fifth cranial nerve.

Neuralgia of the fifth nerve always exhibits itself in the especial violence in certain foci, which Valleix was the first to define with accuracy. These foci are always in points where the nerve becomes more superficial, either in turning out of a bony canal, or in penetrating fasciæ. In the ophthalmic division of the nerve the following possible foci are noticeable: (1) The supra-orbital, at the notch of that name, or a little higher, in the course

of the frontal nerve; (2) the palpebral, in the upper eyelid; (3) the nasal, at the point of emergence of the long nasal branch, at the junction of the nasal bone with the cartilage; (4) the ocular, a somewhat indefinite focus within the globe of the eye; (5) the trochlear, at the inner angle of the orbit.

In the superior maxillary division the following foci may be found: (1) The infra-orbital, corresponding to the emergence of the nerve of that name from its bony canal; (2) the malar, on the most prominent portion of the malar bone; (3) a vague and indeterminate focus, somewhere on the line of the gums of the upper jaw; (4) the superior labial, a vague and not often important focus; (5) the palatine point, rarely observed, but occasionally the seat of intolerable pain.

In the inferior maxillary division the foci are: (1) The temporal, a point on the auriculo-temporal branch, a little in front of the ear; (2) the inferior dental point, opposite the emergence of the nerve of that name; (3) the lingual point, not a common one, on the side of the tongue; (4) the inferior labial point, only rarely met with.

Besides these foci in relation with distinct branches of the trigeminus, there is one of especial frequency which corresponds to the inosculation of various branches. This is the parietal point, situated a little above the parietal eminence. It is small in size – the point of the little finger would cover it. It is the commonest focus of all.

Neuralgia may attack any one, or all, of the three divisions of

the nerve; the latter event is comparatively rare. Valleix, indeed, holds a different opinion; but this seems to me to arise from the fact that his definition of neuralgia was too narrow to include a large number of the milder cases of neuralgia, which are, nevertheless I believe, decidedly of the same essential character with the severer affections. The most frequent occurrence is the limitation of the pain to the ophthalmic division, and incomparably the most frequent foci of pain are the supra-orbital and the parietal.

The most common variety of trigeminal neuralgia is migraine, or sick-headache, as it is often called. This is an affection which is entirely independent of digestive disturbances, in its primary origin, though it may be aggravated by their occurrence. It almost always first attacks individuals at some time during the period of bodily development. Under the influences proper to this vital epoch, and often of a further debility produced by a premature straining of the mental powers, the patient begins to suffer headache after any unusual fatigue or excitement, sometimes without any distinct cause of this kind. The unilateral character of this pain is not always detected at first; but, as the attacks increase in frequency and severity, it becomes obvious that the pain is limited to the supra-orbital and its twigs, with sometimes also the ocular branches. In rare cases, as in all forms of neuralgia, the nerves of both sides may be affected; I have already observed that this seems to be relatively more common in young children. If the pain lasts for any considerable length

of time, nausea, and at length vomiting, are induced. This is followed at the moment by an increase in the severity of the pain, apparently from the shock of the mechanical effect; but from this point the violence of the affection begins to subside, and the patient usually falls asleep. The history of the attacks negatives the idea that the vomiting is ordinarily remedial. This symptom merely indicates the lowest point of nervous depression; but it may happen that a quantity of food which has been injudiciously taken, lying as it does undigested in the stomach, may of itself greatly aggravate the neuralgia, by irritation transmitted to the medulla oblongata. In such a case vomiting may directly relieve the nerve-pain. When the patient awakes from sleep, the active pain is gone. But it is a common occurrence – indeed it always happens when the neuralgia has lasted a long time – that a tender condition of the superficial parts remains for some hours, perhaps for a day or two. This tenderness is usually somewhat diffused, and not limited with accuracy to the foci of greatest pain during the attacks.

Sick headache is not uncommonly ushered in by sighings, yawning, and shuddering – symptoms which remind us of the prodromata of certain graver neuroses, to which, as we shall hereafter see, it is probably related by hereditary descent. In its severer forms, migraine is a terrible infliction; the pain gradually spreads to every twig of the ophthalmic division; the eye of the affected side is deeply bloodshot, and streams with tears; the eyelid droops, or jerks convulsively; the sight is clouded, or even

fails almost altogether for the time, and the darts of agony which shoot up to the vertex seem as if the head were being split down with an axe. The patient cannot bear the least glimmer of light, nor the least motion, but lies quite helpless, intensely chilly and depressed, the pulse at first slow, small and wiry, afterward more rapid and larger, but very compressible. The feet are generally actually, as well as subjectively, cold. Very often, toward the end of the attack, there is a large excretion of pale, limpid urine.

Another variety of trigeminal neuralgia which infests the period of bodily development is that known as clavus hystericus: clavus, from the fact that the pain is at once severe, and limited to one or two small definite points, as if a nail or nails were being driven into the skull. These points correspond either to the supra-orbital or the parietal, or, as often happens, to both at once. But for the greater limitation of the area of pain in clavus, that affection would have little to distinguish it from migraine, for the former is also accompanied with nausea and vomiting when the pain continues long enough; and in both instances it is obvious that there is a reflex irritation propagated from the painful nerve. The adjective hystericus is an improper and inadequate definition of the circumstances under which clavus arises. The truth is, that the subjects of it are chiefly females who are passing through the trying period of bodily development; but there is no evidence to show that uterine disorders give any special bias toward this complaint. Both migraine and clavus are often met with in persons who have long passed their youth; but

their first attacks have nearly always occurred during the period of development.

One circumstance in connection with well-marked clavus appears worth noting, as somewhat differentiating it from migraine. It is, I think, decidedly more frequently the immediate consequence of anæmia than they; but it does not appear, from my experience, that the chlorotic form of anæmia is any more provocative of it than is anæmia from any other cause. Some of the worst cases of clavus, probably, that have ever been seen were developed in the old days of phlebotomy. It was then very common for a delicate girl, on complaint of some stitch of neuralgia or muscular pain in the side, to be immediately bled to a large extent, with the idea of checking an imaginary commencing pleurisy. The treatment, so far from curing the pain and the dyspepsia (which it produced), often aggravated them; whereupon the signs of inflammation were thought to be still more manifest, and more blood was taken. Under such circumstances the most complete anæmia was developed, and very often the patient became a martyr to clavus in its severest forms. One does not now very frequently meet with the victims of such mistaken practice; but I have seen one [since writing this I have seen another case (*vide* cardiac neuralgia, *infra*)] very severe case of clavus produced by loss of blood (in a subject who was doubtless predisposed to neuralgic affections, to judge from his family history). The case was that of a boy who accidentally divided his radial.

The middle period of life is not, according to my experience, fruitful in first attacks of trigeminal neuralgia. But, when the neuralgic tendency has once declared itself, there are many circumstances of middle adult life which tend to recall it. Over-exertion of the mind is one of the most frequent causes, especially when this is accompanied by anxiety and worry; indeed, the latter has a worse influence than the former. In women, the exhaustion of hæmorrhageal parturition, or of menorrhagia, and also the depression produced by over-suckling, are frequent causes of the recurrence of a migraine or clavus to which the patient had been subject when young. The middle period of life is very obnoxious to severe mental shocks, which are more injurious than in youth, because of the diminished elasticity of mind which now exists; and the same may be said of the influence of severe bodily accident of a kind to inflict damage on the central nervous system. Special mention ought to be made, in the case of women, of the disturbing influence of the series of changes which close the middle portion of their life, viz., the involution of the sexual organs. It would seem as if every evil impression which has ever been made on the nervous system hastens to revive, with all its disastrous effects, at this crisis. Latent tendencies to facial neuralgia are particularly apt to reassert their existence, and they are usually accompanied and aggravated by a tendency to vaso-motor disturbance, which not unfrequently seems to be the most distressing part of the malady. I have several times been consulted by women undergoing the "change," whose chief

complaint was of disagreeable flushings and chills, especially of the face; and, on inquiring further, one has found that they were suffering from severe facial neuralgia, which, however, alarmed and distressed them less than did the vaso-motor disturbance, and the giddiness, etc., which were an evident consequence of it.

It is, however, the final or degenerative period of life which produces the most formidable varieties of facial neuralgia. Neuralgia of the fifth, which have previously attacked an individual, may recur at this time of life without any special character, except a certain increase of severity and obstinacy. But trigeminal neuralgias, which now appear for the first time, are usually intensely severe, and nearly or quite incurable. These cases correspond with the affection named by Trousseau tic epileptiforme, and it is of them, doubtless, that Romberg is speaking, when he says that the true neuralgias of the fifth rarely occur before the fortieth year of life. These neuralgias are distinguished by the intense severity of the pain, the lightning-like suddenness of its onset, and the almost total impossibility of effecting more than a temporary palliation of the symptoms. But they are also distinguished by another circumstance which too often escapes attention, namely, they are almost invariably connected with a strong family taint of insanity, and very often with strong melancholy and suicidal tendencies in the patient himself, which do not depend on, and are not commensurate with, the severity of the pain which he suffers. It may seem a strong view to take, but I must say that I regard a well-developed

and typical neuralgia, of the type we are now speaking of, as an affection in which the mental centres are almost as deeply involved as in the fifth nerve itself; though, whether this is an original part of the disease, or a mere reflex effect of the affection of the trigeminal nerve, I am not prepared to say. Other reflex affections are common enough in this kind of facial neuralgia, and especially spasmodic contractions of the facial muscles, which, indeed, often form one of the most striking features of the malady, the attacks of pain being accompanied by hideous involuntary grimaces. Even in the earlier stages of the disease there is usually some degree of the same thing, as, for instance, spasmodic winking. In the great majority of cases, after a little time, exquisitely tender points are formed in the chief foci of pain; in the intervals between the spasms the least pressure on these points is sufficient to cause agony, and a mere breath of wind impinging on them will often reproduce the spasm. Yet, in the height of the acute paroxysm itself, the patient will often frantically rub these very parts in the vain attempt to produce ease; and it has often been noticed that such friction has completely rubbed off the hair or whisker on the affected side: this happens the more easily, because the neuralgic affection itself impairs the nutrition of the hair and makes it more brittle, as we shall have occasion to show more fully hereafter. The general appearance of a confirmed neuralgic of the type now described is very distressing, and the history of his case fully corresponds to it. He is moody and depressed, he dreads

the least movement, and the least current of air; he hardly dares masticate food at all, more especially if the inferior maxillary division of the nerve be implicated (as is generally the case sooner or later), for this movement re-excites the pain with great violence. Nutrition is very commonly kept up by slops, and is thus very insufficiently maintained: this failure of nutrition is itself a decidedly powerful influence in aggravating the disease. And there is a still further calamity which is not unlikely to occur. The patient may fly to the stupefaction of drink as a relief to his sufferings, and, if he has once experienced the temporary comfort of drunken anæsthesia, is excessively likely to repeat the experiment. But this is another and one of the most fatally certain methods of hastening degeneration of nerve-centres, and the ultimate effect, therefore, is disastrous in every way.

Although the neuralgias of the degenerative period are thus fatally progressive, on the whole, there are some curious occasional anomalies. Many cases are recorded, and I have myself seen such, in which the attacks of pain, after reaching a very considerable degree of intensity, have ceased for many months, whether under the influence of remedies or not it is difficult to say with certainty, but probably far more from independent causes. Whatever may be the reason of these sudden arrests, however, certain it is that they are very seldom permanent, the pain returning sooner or later, like an inexorable fate.

(*b*) *Cervico-occipital Neuralgia.*– As Valleix has remarked,

there are several nerves (in fact, the posterior branches of all the first four spinal pairs) which are more or less frequently the seat of this affection. But among them all there is none comparable to the great occipital, which arises from the second spinal pair, for the frequency and importance of its neuralgic affections. This nerve sends branches to the whole occipital and the posterior parietal region. On the other hand, the second and third spinal nerves help to make up the superficial cervical branch of the cervical plexus which is distributed to the triangle between the jaw, the median line of the neck, and the edge of the sterno-mastoid, and those to the lower part of the cheek. Then there is the auricular branch, which starts from the same two pairs, and supplies the face, the parotid region, and the back of the external ear. Then the small occipital, distributed to the ear and to the occiput. And, finally, superficial descending branches of the plexus. These, altogether, are the nerves which at various points, where they become more superficial, form the foci of cervico-occipital neuralgia.

The most typical example of this form of neuralgia which has fallen under my notice occurred (after exposure to cold wind) in a lady about sixty years of age, who had all her life been subject to neuralgic headache approaching the type of migraine, and who came of a family in which insanity, apoplexy, and other grave neuroses, had been frequent. The pain centred very decidedly in a focus corresponding to the occipital triangle of the neck; it recurred at irregular intervals, and in very severe paroxysms,

lasting about a minute. It was interesting to follow the history of this case in one respect. It afforded a clear illustration of the manner in which local tenderness is developed; for during the first three or four days the patient, so far from complaining that the painful part was tender on pressure, experienced decided relief from pressure, although she experienced none from mere rest, however carefully the neck might be supported. But in the course of a few days an intensely painful spot developed itself in the occipital triangle, and the back of the ear became excessively tender. All manner of remedies had been tried in this case, without the slightest success and especially there was a large amount of speculative medication, on the theory of the probably "rheumatic" or "gouty" nature of the affection. Nothing was doing the least good to the pain, and meantime the old lady's digestion and general health and spirits were suffering very severely. Blistering was now suggested, and the affection yielded at once. The relief afforded must have been very complete, to judge by the warm gratitude which the patient expressed. The subsequent history of this patient illustrates several points which will engage our attention under the section of Pathology. It may be just mentioned here, that she suffered, twelve months later, from a hemiplegic attack of paralysis.

The tendency of cervico-occipital neuralgias is to spread toward the lower portions of the face, as observed by Valleix; in this case they become, sometimes, undistinguishable from neuralgias of the third division of the trigeminus. In the early

stages of the disease, if the physician had been lucky enough to witness them, the true place of the origin of the pain would have been easily recognizable; at a later date it sometimes needs great care, and a very strict interrogation of the patient, to discover the true history of the disease. Sometimes, even, a cervico-occipital neuralgia which spreads in this way causes great irritation and swelling of the submaxillary and cervical glands; and I have known a case of this kind mistaken for commencing glandular abscess. The pain and tension were so great in this case, and the constitutional disturbance was so considerable, that the presence of deep-seated pus was strongly suspected, and the propriety of an incision (which would have been a hazardous proceeding) was seriously canvassed.

Experience is too limited, to judge by what I have personally seen, and the recorded cases with which I am acquainted, to enable us to say anything with confidence of the conditions, as to age and general nutrition of the body, which specially favor the occurrence of cervico-occipital neuralgia. Apparently, however, there is much reason for thinking that the immediately exciting cause of it is most frequently external cold. I have known it produced several times in the same person, by sitting in a draught which blew strongly on the back of the neck. And I am inclined to think that it is seldom the first form of neuralgia which attacks a patient, but usually occurs in those who have previously suffered from neuralgic pains either of the trigeminus or of some other superficial nerve. I have known it once to occur in a person,

thus predisposed to neuralgic affections, in consequence of reflex irritation from a carious tooth, as was proved by its cessation on the extraction of the latter, although there was no facial pain.

(*c*) *Cervico-brachial Neuralgia.*– This group includes all the neuralgias which occur in nerves originating from the brachial plexus, or from the posterior branches of the four lower cervical nerves. The most important characteristic of the neuralgias of the upper extremity is the frequency, indeed almost constancy, with which they invade, simultaneously or successively, several of the nerves which are derived from the lower cervical pairs. The neuralgic affections of the small posterior branches (distributed to the skin of the lower and back part of the neck) are comparatively of small importance. But the "solidarite," which Valleix so well remarked, between the various branches of the brachial plexus, causes the neuralgias of the shoulder, arm, forearm, and hand to be extremely troublesome and severe, owing to the numerous foci of pain which usually exist. Perhaps Valleix's description of these foci is somewhat over-fanciful and minute; but the following among them which he mentions I have repeatedly identified; (1) An axillary point, corresponding to the brachial plexus itself; (2) a scapular point, corresponding to the angle of the scapula. (It is difficult to identify the peccant nerve here; the one to which it apparently corresponds, and to which Valleix refers it, is the subscapular; but we are accustomed to think of this as a motor nerve. Still, it is certain that pressure on a painful point existing here will often cause acute pain in

the nerves of the arm and forearm.); (3) A shoulder point, which corresponds to the emergence, through the deltoid muscle, of the cutaneous filets of the circumflex; (4) a median-cephalic point, at the bend of the elbow, where a branch of the musculo-cutaneous nerve lies immediately behind the median-cephalic vein; (5) an external humeral point, about three inches above the elbow, on the outer side, corresponding to the emergence of the cutaneous branches which the musculo-spiral nerve gives off as it lies in the groove of the humerus; (6) a superior ulnar point, corresponding to the course of the ulnar nerve between the olecranon and the epitrochlea; (7) an inferior ulnar point, where the ulnar nerve passes in front of the annular ligament of the wrist; (8) a radial point, marking the place where the radial nerve becomes superficial, at the lower and external aspect of the forearm. Besides these foci, there are sometimes, but more rarely, painful points developed by the side of the lower cervical vertebræ, corresponding to the posterior branches of the lower cervical pairs.

The most common seat of cervico-brachial neuralgia has been, in my experience, the ulnar nerve, the superior and inferior points above mentioned being the foci of greatest intensity; an axillary point has also been developed in one or two cases which I have seen. Rarely, however, does the neuralgia remain limited to the ulnar nerve; in the majority of cases it soon spreads to other nerves which emanate from the brachial plexus. A very common seat of neuralgia is also the shoulder, the affected

nerves being the cutaneous branches of the circumflex. I am inclined to think, also, that affections of the musculo-spiral, and of the radial near the wrist, are rather common, and have found them very obstinate and difficult to deal with. One case has recently been under my care in which the foci of greatest intensity of the pain were an external humeral and a radial point; but besides these there was an exquisitely painful scapular point. In another case the pain commenced in an external humeral and a radial point, but subsequently the shoulder branches of the circumflex became involved. A most plentiful crop of herpes was an intercurrent phenomenon in this case, or rather, was plainly dependent on the same cause which produced the neuralgia.

Median cephalic neuralgia is an affection which used to be comparatively common in the days when phlebotomy was in fashion, the nerves being occasionally wounded in the operation. I have only seen it in connection with this cause, that is to say, as an independent affection. One such case has been under my care. But a slight degree of it is not uncommon, as a secondary symptom, in neuralgia affecting other nerves. The traumatic form is excessively obstinate and intractable.

In the neuralgias of the arm we begin to recognize the etiological characteristic which distinguishes most of the neuralgic affections of the limbs, namely, the frequency with which they are aggravated, and especially with which they are kept up and revived when apparently dying out, the muscular movements. In the case above referred to, of neuralgia of the

subscapular, musculo-spiral (cutaneous branches), and radial, the act of playing on the piano for half an hour immediately revived the pains, in their fullest force, when convalescence had apparently been almost established.

There is a special cause of cervico-brachial neuralgias which is of more importance than, till quite lately, has ever been recognized, namely, reflex irritation from diseased teeth. The subject of these reflex affections from carious teeth has been specially brought forward by Mr. James Salter, in a very able and interesting paper in the "Guy's Hospital Reports" for 1867; and Mr. Salter informs me that he has been surprised by the number of cases of reflex affections, both paralytic and neuralgic, of the cervico-brachial nerves, produced by this kind of irritation, and that he agrees with me in thinking that a peculiar organization or disposition of the spinal centres of these nerves must be assumed in order to account for the fact.

The liability of particular nerves in the upper extremity to neuralgia from external injuries requires a few words. The nerve which is probably most exposed to this is the ulnar. Blows on what is vulgarly called the funny-bone are not uncommon exciting causes of neuralgia in predisposed persons, and cutting wounds of the ulnar a little above the wrist are rather frequent causes. The deltoid branches of the circumflex and the humeral cutaneous branches of the musculo-spiral are much exposed to bruises and to cutting wounds. So far as I know, it is only when a nerve trunk of some size has been wounded that neuralgia is

a probable result. Wounds of the small nervous branches in the fingers, for instance, are very seldom followed by neuralgia. I have no statistics to guide me as to the effect of long-continued irritation applied to one of these small peripheral branches, but it is probable that that might be more capable of inducing neuralgia. As far as my own experience goes, however, it would appear that a more common result is convulsion of some kind, from reflex irritation of the cord.

(*d*) *Dorso-intercostal Neuralgia.*– This is one of the commonest varieties of neuralgia, and yet it is very likely to be confounded with other affections not neuralgic in their nature. The disorder with which it is especially liable to be confounded is myalgia, which will be fully described in another chapter, and which, when developed in the region of the body to which we are now referring, is commonly spoken of as pleurodynia, or lumbago (according as it affects the muscles of the back or of the side), or muscular rheumatism. It must be owned that the severer forms of this affection can scarcely be distinguished from true intercostal neuralgia by anything in the character or situation of the pains. It will be seen, hereafter, however, that myalgia has its own specific history, which is very characteristic; at present, it is sufficient to remember that it is often extremely like neuralgia when situated in the dorso-intercostal region.

Dorso-intercostal neuralgia is an affection of certain of the dorsal nerves. These nerves divide, immediately after their emergence from the intervertebral foramina, into an interior and

a posterior branch. The latter sends filaments which pierce the muscles to be distributed to the skin of the back; the former, which are the intercostal nerves, follow the intercostal spaces. Immediately after their commencement they communicate with the corresponding ganglia of the sympathetic. Proceeding outward, they at first lie between two layers of intercostal muscles, and, after giving off branches to the latter, give off their large superficial branch. In the case of the seventh, eighth and ninth intercostal nerves, which are those most liable to intercostal neuralgia, the superficial branch is given off about midway between the spine and the sternum. The final point of division, at which superficial filets come off, in all the eight lower intercostal nerves, is nearer to the sternum; and is progressively nearer to the latter in each successive space downward. There are thus, as Valleix observes, three points of division: (1) At the intervertebral foramen; (2) midway in the intercostal space; (3) near to the sternum. And there are three sets of branches (reckoning the posterior division) which respectively make their way to the surface near to these points.

In one of its forms, intercostal neuralgia is one of the commonest of all neuralgic affections. I refer to the pain beneath the left mamma, which women with neuralgic tendencies so often experience, chiefly in consequence of over-suckling, but also from exhaustion caused by menorrhagia or leucorrhœa, and especially from the concurrence of one of the latter affections with excessive lactation. It is especially necessary, however, to

guard against mistaking for this affection a mere myalgic state of the intercostal or pectoral muscles, which often arises in similar circumstances with the addition of excessive or too long continued exertions of these muscles. "Hysteric" tenderness also sometimes bears a considerable resemblance, superficially, to true intercostal neuralgia, in cases where the genuine disease does not exist.

A less common but very remarkable variety of intercostal neuralgia than that just mentioned, is the kind of pain which attends a good many cases of herpes zoster, or shingles. It is only of recent years that any essential connection between zoster and neuralgia has been suspected. The occurrence of neuralgia as a sequel to zoster had indeed been mentioned by Rayer, Recamier, and Piorry, but the essential nature of the connection between the two diseases was evidently not suspected by Lecadre, when, as late as 1855, he published his valuable essay on intercostal neuralgia. M. Notta was one of the first to present connected observations on the subject. But it was much more fully discussed in a paper published by M. Barensprung, in 1861. [*Ann. der Charite-Krakenhauser zer Berlin, ix.*, 2, p. 40. *Brit. and For. Med. Rev.*, January, 1862.] This author showed the absolute universality with which unilateral herpes, wherever developed, closely followed the course of some superficial sensory nerve, and gave reasons, which will be discussed hereafter, for supposing that the disease originates in the ganglia of the posterior roots, and that the irritation spreads

thence to the posterior roots in the cord, causing reflex neuralgia. We shall have more to say on this matter. Meantime, it seems to be established, by multiplied researches, that, though unilateral herpes may and often does occur without neuralgia, and neuralgia without herpes, the concurrence of the two is due to a mere extension of the original disease, which is a nervous one.

In young persons, zoster is not attended with severe neuralgia, but a curious half-paretic condition of the skin, in which numbness is mixed with formication, or with a sensation as of boiling water under the skin, precedes the outbreak of the eruption by some hours, or by a day or two. Painless herpes is commonest in youth. I remember, for instance, that, in an attack of shingles which I suffered about the age of eleven, there was at no stage any acute pain; only, in the pre-eruptive period, for a short time, I had the curious sensations referred to above: and the same thing has occurred in all the patients below puberty that I have seen, if they complained at all. From the age of puberty to the end of life, the tendency of herpes to be complicated with neuralgia becomes progressively stronger. The course of events varies much in different cases, however. In adult and later life the symptoms usually commence with a more or less violent attack of neuralgic pain, which is succeeded, and generally, though not always, displaced by the herpetic eruption. The latter runs its course, and after its disappearance the neuralgia may return, or not. In old people it almost always does return, and often with distressing severity and pertinacity. Six weeks or two months is a

very common period for it to last, and in some aged persons it has been known to fix itself permanently, and cease only with life. In these subjects a further complication sometimes occurs. The herpetic vesicles leave obstinate and painful ulcers behind them, which refuse to heal, and which worry the patient frightfully, the merest breath of air upon them sufficing to produce agonizing darts of neuralgic pain. I have known one patient, a woman over seventy years of age, absolutely killed by the exhaustion produced by protracted suffering of this kind.

The foci of pain in intercostal neuralgia are always found in one or more of the points, already enumerated, at which sensory nerves become superficial. In long-standing cases acutely tender points are developed in one or more of these situations; not unfrequently the most decided of these spots is where it gets overlooked, namely, opposite the intervertebral foramen. H. G., a young woman aged twenty-six, who applied to me at Westminster Hospital, had suffered for twelve months from an irregularly intermitting but very severe neuralgia at the level of the seventh intercostal space of the left side. The violence of the pain was sometimes excessive, and when the paroxysm lasted longer than usual it generally produced faintness and vomiting. This patient had no sign of tenderness anywhere in the anterior or lateral regions, though the pain seemed to gird round the left half of the chest as with an iron chain, but an exquisitely tender spot, as large as a shilling, was found close to the spine; pressure on this always induced a strong feeling of nausea.

As an illustration of the herpetic variety of dorso-intercostal neuralgia, running a severe but not protracted course, I may relate the case of a medical man whom I formerly attended. This gentleman was about thirty-two years of age, and a highly neurotic subject: inter alia, he had already suffered from a severe and protracted sciatica; and, very shortly before the herpetic attack, had been jaundiced from purely nervous causes. His nervous maladies were undoubtedly caused by over-brain-work. In this case the neuralgia developed itself during the latter half of the eruptive period, which was rather unusually lengthened. It occupied the seventh, eighth, and ninth intercostal spaces of the side affected with herpes, and was very violent and acute, so that the patient expressed himself as almost "cut in two" with it. The pain ceased even before the vesicles had perfectly healed; a rather unusual occurrence in my experience. I shall refer to this case hereafter, as an example of what I believe to be the effect of a particular method of treatment in lessening the tendency to after-neuralgia. The result of my experience is certainly this – that if a case of herpes in an adult, or still more in an aged person, be left to itself, the amount of after-neuralgia will very closely correspond with the severity of the eruptive symptoms.

There is a variety of intercostal neuralgia which is of more importance than the commoner kinds. Occurring mostly in persons who have passed the middle age, it possesses the characters of obstinacy and severity which belong to the neuralgias of the period of bodily decay. It is at first unattended

with any special cardiac disturbance. By-and-by, however, it begins to attract more careful attention from the fact that the severer paroxysms extend into the nerves of the brachial plexus of the affected side, so that pain is felt down the arm. In the midst of a paroxysm of intercostal and brachial pain, it may happen that the patient is suddenly seized with an inexpressible and deadly feeling of cardiac oppression, and, in fact, the symptoms of angina pectoris, such as they will be described in a future chapter, become developed. A case of this kind is at present under my care at the Westminster Hospital. The patient is a man only fifty-six years of age, but whose extreme intemperance has produced an amount of general degeneration of his tissues such as is rarely seen except in the very aged; he has the most rigid radial arteries, and the largest arcus senilis, I think, that I ever saw. This man has long been subject to attacks of violent intercostal neuralgia, and a recent access assumed the type of unmistakable angina. It is very probable that his coronary arteries have now become involved in the degenerative process. In this case, before the development of any marked anginal symptoms, the paroxysmal pain, from being merely intercostal, had come to extend itself into the left shoulder and arm.

Intercostal neuralgia not unfrequently accompanies, and is sometimes a valuable indication of, phthisis. I do not mean to say that the vague pains in the chest-walls, which are so very common in phthisis, are to be indiscriminately accounted neuralgia; on the contrary, they are, in the large majority of

instances, merely myalgic, and arise from the participation of the pectorals, or intercostals, or both, in the mal-nutrition which prevails in the organism generally. But it happens, sometimes that a distinctly intermitting neuralgia occurs as an early symptom of phthisis; in fact, where there is a predisposition to neurotic affections, I believe that this is not very uncommon. The subjects are generally women; they are mostly of that class of phthisical patients who have a quick intelligence, fine soft hair, and a sanguine temperament. I have had one male patient under my care: this was a young gentleman aged eighteen, in whom a neuralgic access came on with so much severity, and caused so much constitutional disturbance, that the idea of pleurisy was strongly suggested. The paroxysms returned at irregular intervals for a considerable period: they were quite unlike myalgic pains, not only in their character, but more especially with respect to the circumstances which were found to provoke their recurrence. They were the first symptoms which lead to any careful examination of the chest; it was then found that there were prolonged expiration and slight dulness, at one apex. At this period, wasting had not seriously commenced; but, on the other hand, there was an extraordinary degree of debility for so early a stage of phthisis. I am inclined to think that self-abuse was the principal cause both of the phthisis and the neuralgia, acting doubtless on a predisposed organism, for his family was rather specially beset with tendencies to consumption. I may add here, that it has appeared to me that young persons with

phthisical tendencies are specially liable to neuralgic affections as a consequence of self-abuse.

A special variety of intercostal neuralgia is that which attacks the female breast. The nerves of the mammæ are the anterior and middle cutaneous branches of the intercostals; and they are not unfrequently affected with neuralgia, which is sometimes very severe and intractable. Dr. Inman has very properly pointed out that a large number of the cases of so-called "hysterical breast" are really myalgic, and are directly traceable to the specific causes of myalgia; but there is no question in my mind that true neuralgia of the breast does occur, and indeed is frequent, relatively to the frequency of neuralgias generally. There are several kinds of circumstances under which it is apt to occur. In highly-neurotic patients it may come on with the first development of the breasts at puberty; and it may be added that this is especially apt to occur where puberty has been previously induced by the unfortunate and mischievous influences to which we had occasion to refer in speaking of certain other neuralgiæ. A neuralgia of the left breast occurred in a patient of mine, who attended the Westminster Hospital. She was only twelve years of age, and small of stature, but the mammæ were considerably developed. The face was haggard, there was an almost choreic fidgetiness about the child, and a very unprepossessing expression of countenance; the result of inquiries left no doubt that the patient was much addicted to self-abuse; and it seemed probable that to this was due the fact

that menstruation had come on, and was actually menorrhagic in amount.

A very painful kind of mammary neuralgia is experienced by some women during pregnancy; but more commonly the mammary pains felt at this period are mere throbbings, not markedly intermittent in character, and plainly dependent on mechanical distention of the breast: such affections are not to be reckoned among true neuralgiæ. A true neuralgia of a very severe character is sometimes provoked by the irritation of cracked nipples. I have seen a delicate lady, of highly-neurotic temperament, and liable to facial neuralgia, most violently affected in this way. Vain attempts had been made for several consecutive days to suckle the infant from the chapped breast; when suddenly the most severe dorso-intercostal neuralgia set in. The attacks lasted only a few seconds each, but they recurred almost regularly every hour, and were attended with intense prostration, and sometimes with vomiting. Discontinuance of suckling was found necessary, for even the application of the child to the sound breast now sufficed to arouse a paroxysm of pain. Complete rest, protection of the breast from air and friction, and the hypodermic injection of morphia, rapidly relieved the sufferer.

(*e*) *Dorso-lumbar Neuralgia.*– The superficial branches of the spinal nerves emanating from the lumbar plexus are considerably less liable to be affected with severe and well-marked neuralgia than are the dorso-intercostal nerves. Pains in the abdominal

walls, which are a good deal like neuralgia, are not uncommon; but the majority of them will be found, on careful observation, to be myalgia. At least, this has been the case in my own experience.

When true neuralgia of the superficial branches of the lumbo-abdominal nerves occurs, it develops itself in one or more of the following foci: (1) Vertebral points, corresponding to the posterior branches of the respective nerves; (2) an iliac point, about the middle of the crista ilii; (3) an abdominal point, in the hypogastric region; (4) an inguinal point, in the groin, near the issue of the spermatic cord, whence the pain radiates along the latter; (5) a scrotal or labial point, situated in the scrotum or in the labium majus.

Such is the description given by Valleix; for my own part, I cannot say that I have seen enough cases to test its accuracy. I believe it to be generally correct, yet it may fairly be doubted whether the author might not have revised his description had the natural history of myalgic affections been as carefully investigated as it has since been. The hypogastric foci of pain of which he speaks are at least open to considerable suspicion, as it will be shown, in the chapter on Myalgia, that an extremely common variety of the latter affection is situated in this region, and the severity of the pain which it often produces might well cause it to be mistaken for a genuine neuralgia.

I have, however, seen three or four cases in which the very complete intermittence of the paroxysms, without any perceptible relation to the question of muscular fatigue, left

no doubt in my mind of the really neuralgic character of the malady. In one of these instances, oddly enough, the exciting cause appeared to be fright; and this was as severe a case as one often sees. The patient was a woman of middle age, and much depressed by the long continuance of a profuse leucorrhœa. As she was walking along the street, a herd of cattle, in a somewhat irritable and disorderly condition, came suddenly toward her; she immediately began to suffer pain just above the crest of the ilium, and at the lumber region, and, most acutely, in the labium majus of one side; and then pain returned daily, about 10 a. m., lasting for half an hour with great severity. This woman's family history was remarkable: her mother had been paraplegic, her sister was a confirmed epileptic, and two of her children had suffered from chorea.

In two other cases of lumbo-abdominal neuralgia which were under my care, there were also very painful points in the spermatic cord and in the testicle. One of these cases will be referred to under the head of Visceral Neuralgia. Another case, in which severe quasi-neuralgic pain was referred to the groin, will be described in the chapter on the Pains of Hypochondriasis.

(*f*) *Crural Neuralgia.*– This appears to be rare as an independent affection occurring primarily in the crural nerve. Valleix had only seen it twice in all his large experience, and I have never seen it myself. Neuralgic pain of the crural nerve is almost always a secondary affection arising in the course of a neuralgia, which first shows itself in the external pudic branch

of the sacral plexus; or else occurring as a complication of sciatica. A remarkably severe example of the latter occurrence was observed in an old man who still occasionally attends the Westminster Hospital. He has been a martyr to the most inveterate bilateral sciatica for between two and three years; and, within the last three months, it has extended itself into the cutaneous branches of the curval nerves of both thighs. So great an aggravation of the pain is produced by any muscular movement, that the patient can only walk at the slowest possible pace, moving each foot forward only a few inches at a time. The bilateral distribution of the pain is remarkable in this case; but there can be no doubt of its really neuralgic character, from the truly intermittent way in which it recurs, and the absence of any history whatever to point in the direction of rheumatism, gout, or syphilis.

The nervous supply to the skin of the anterior and external portion of the thigh includes: (1) The middle cutaneous, (2) the internal cutaneous, and (3) the long saphenous branch of the anterior crural nerve; (4) the cutaneous branch of the obturator; and (5) the external cutaneous nerve, derived from the loop formed between the second and third lumbar nerve. The sensitive twigs derived from the two latter sources, equally with the branches of the anterior crural, are liable to be secondarily affected by neuralgia, which commences in the lumbo-abdominal nerves; but it must be a rare event for them to be the seat of a primary neuralgia. The only occasion on which

I have seen anything which looked like the latter was in the case of a porter, who, in straining to lift a very heavy load, ruptured some part of the attachment of the tensor vaginæ femoris. But the susceptibility of all the nerves of the front of the thigh to secondary or reflex neuralgia receives numerous illustrations. The extremely severe pain at the internal aspect of the knee-joint, which is such a common symptom in morbus coxæ, is evidently a reflex neuralgia of the long saphenous nerve, the ultimate irritation being situated in the branches of the obturator nerve which supply the hip-joints. For some reason unexplained, it happens that this saphenous nerve is specially liable to be affected in a reflex manner: for instance, this happens in a considerable number of cases of sciatica. I have a lady now under my observation, in whom the secondary neuralgia of the saphenous nerve has become even more intolerable than the pain in the sciatic, which was the nerve primarily affected. The pain in these cases very frequently runs down the inner and anterior surface of the leg to the internal ankle. Sometimes the branches of the anterior crural become the seat of intensely painful points in the course of a long-persisting sciatica. A patient at present under my care has a spot, about the size of a shilling, just at the emergence of the middle cutaneous branch from the fascia lata, which is intensely and persistently tender to the touch, and the skin here is so exquisitely sensitive to the continuous galvanic current that the application of moistened sponge-conductors, with a current of only fifteen Daniell's cells, causes intolerable

burning pain; whereas at every other part of the limb the current from twenty-five cells can be borne without much inconvenience.

(*g*) *Femoro-popliteal Neuralgia, or Sciatica.*– This is one of the most numerous and important groups of neuralgia; but, notwithstanding that there are plenty of opportunities for studying it, I venture to think it is very commonly mistaken for different and non-neuralgic diseases, and they for it. The rules of diagnosis which will be laid down for all the neuralgiæ would nevertheless prevent these errors, if carefully attended to.

Sciatica is a disease from which youth is comparatively exempt. Valleix had collected one hundred and twenty-four cases, and in not one was the patient below the age of seventeen, only four were below twenty. In the next decade there were twenty-two; in the next, thirty; and the largest number of cases, thirty-five, occurred between the ages of forty and fifty. This completely tallies with my own experience, and appears to afford some support to a suspicion I have formed, that the chief exciting cause of sciatica is the pressure exercised on the nerve in locomotion, and that this cause exercises its maximum influence when the period of bodily degeneration commences. It is further remarkable that, in elderly persons (whose habits of locomotion are of course more limited), the proportion of fresh cases rapidly diminishes; and also that above the age of thirty the number of male patients greatly exceeds that of female patients attacked. All this seems to point in the same direction.

According to my observation, there are three distinct varieties

of sciatica. The first of these is obscure in its origin, but may be said, in general terms, to be connected with a nervous temperament of the highly impressible kind, which is more or less like what we call "hysteric," not only in the female, but also in male patients. The subjects of this kind of sciatica are mostly young persons, and hardly ever more than middle-aged; they are generally found to be liable to other forms of neuralgia; and the actual attack of sciatica is produced by some fatigue or mental distress, which at other times might have brought on sick headache, or intracostal neuralgia, etc. Very many of these patients are anæmic; and chlorotic anæmia seems specially to favor the occurrence of the affection. The greater number of the victims are females, and in very many, whether as cause or effect, there is impeded, or at least imperfect, menstruation. This kind of sciatic pain is not usually of the highest degree of intensity, but it generally spreads into a great many branches, both in a direct and a reflex manner. It is probable that this variety of the disease is, at least very often, dependent upon, or much aggravated by, an excited condition of the sexual organs; certainly, I have observed it with special frequency in women who have remained single long after the marriageable age, and in several male patients there has been either the certainty or a strong suspicion of venereal excess. Sciatica of this kind also occurred in the case of a single woman aged about thirty, who to my knowledge was excessively addicted to self-abuse.

The second variety of sciatica occurs for the most part in

middle-aged or old persons who have long been subject to excessive muscular exertion, or have been much exposed to damp and cold, or who have been subject to the combined influence of both these kinds of evil influence. One must also include, I think, in this group a considerable number of cases where the age is not so advanced, but the patient has been obliged, by the nature of his business, to maintain the sitting posture daily, for hours together, exercising pressure on the nerve; this is especially liable to happen in these persons.

The sufferers from this variety of sciatica are mostly, as already said, of middle age or more; but this statement must be understood to be made in the comparative sense, which refers rather to the vital status of the individual than to the mere lapse of years. Many of these people have hair which is prematurely gray, and in some the existence of rigid arteries, together with arcus senilis, completes the picture of organic involution, or senile degeneration. In particular cases, where depressing influences have been at work for a long time, or unusually active, these appearances rectify the false impression we should otherwise derive from learning the mere nominal age of the person; this is especially often the case with regard to patients who have for a long time drunk to excess. The prematurely and permanently gray hair (it will be seen hereafter that permanency of grayness is an important point), together with well-marked inelasticity of arteries, very often tells a tale which is most useful in informing us, not only of the vital status of the patient, but of the kind of

sciatica under which he labors; and also influences our prognosis seriously. There is otherwise a somewhat deceptive air about the appearance of many of these degenerative cases; for instance, a ruddy complexion is not uncommon, nor the retention of considerable, or even great, muscular strength. It is probable that these appearances deceived Valleix and many others, or they could hardly have failed, as they have, to observe the frequency of the degenerative type among the most numerous group of sciatic patients, namely, those between thirty and fifty years of age. These persons are not truly "robust," although at a hasty glance they might at first seem to be so. It would be a serious mistake to omit the search for the important vital evidences which have been referred to, since these therapeutic and prognostic indications are of the highest value.

A prominent feature in this kind of sciatica is its great obstinacy and intractability. Another, equally marked, is the tendency to the development of spots around the foci of severest pain which are intensely and permanently tender, and the slightest pressure on which is sufficient to set up acute pain. This is a symptom much less developed, if developed at all, in the variety of sciatica which we first discussed. The places which are especially apt to present this phenomenon of tenderness are as follows: (1) A series, or line of points, representing the cutaneous emergence of the posterior branches, which reaches from the lower end of the sacrum up to the crista ilii; (2) a point opposite the emergence of the great and small sciatic nerves

from the pelvis; (3) a point opposite the cutaneous emergence of the ascending branches of the small sciatic, which run up toward the crista ilii; (4) several points at the posterior aspect of the thigh, corresponding to the cutaneous emergence of the filets of the crural branch; (5) a fibular point, at the head of the fibula, corresponding to the division of the external popliteal; (6) an external malleolar, behind the outer ankle; (7) an internal malleolar.

I have already mentioned that in sciatica the pain frequently spreads in a reflex manner to nerves which are connected, by their origin from the plexus, with the sciatic. It will be remembered, also, that I related cases in which the formation of tender points, in the course of the nerves thus secondarily affected, was even more distinct and remarkable than anywhere in the branches of the sciatic itself.

Another circumstance which distinguishes the form of sciatica which we are now describing is, the degree in which (above all other forms of neuralgia) it involves paralysis of motion. [The subject of the complication of neuralgia will be treated in a general manner farther on; but it seems necessary to note here the special liability of sciatic patients to this and to the most material complications]. By far the largest part of the motor nervous supply for the whole lower limb passes through the trunk of the great sciatic; it might therefore be naturally expected that a strong affection of the sensory portion of the nerve would produce, in a reflex manner, some powerful effect upon the motor element.

This effect is most frequently in the direction of paralysis. Complete palsy is rare, but in a large proportion of cases which have lasted some time there will be found, independently of any wasting of muscles, a positive and considerable loss of motor power. It is of course necessary to avoid the fallacy which might be produced by neglecting to observe whether movement was restricted merely in consequence of its painfulness. Not long since, I had occasion to test the electric sensibility in a case of sciatica, in which there was extremely severe pain, affecting chiefly the peroneal region of the leg, and great weakness of the leg, amounting to inability for walking. The gastrocnemius could hardly be got to contract at all, when the most powerful Faradic current was directed upon the nerve in the popliteal space of the affected limb, though the muscle of the sound side reacted with great vigor.

Anæsthesia is also a common complication of sciatica, far commoner, I venture to think, than it has been represented either by Valleix, or Notta. It is necessary, however, to be explicit on this point. In the early stages, both of this form of sciatica, and of the milder variety previously described, there is almost always partial numbness of the skin previous to the first outbreak of the neuralgic pain, and during the intervals between the attacks. By degrees this is exchanged, in the milder form, for a generally diffused tenderness around the foci of neuralgic pain, while other portions of the limb remain more or less anæsthetic. In the severer forms it sometimes happens that, besides an intense

tenderness of the skin over the painful foci, there is diffused tenderness over the greater part or the whole of the surface of the limb. But it is important to remark that both in the anæsthetic and the hyperæsthetic conditions (so called) the tactile sensibility is very much diminished. I have made a great many examinations of painful limbs, in sciatica, and have never failed to find (with the compass points) that the power of distinctive perception was decidedly lowered.

Convulsive movements of muscles are met with in a moderate proportion of cases of sciatica in middle and advanced life, in which affection they are entirely involuntary. They differ from certain spasmodic movements not unfrequently observed in the milder form (and especially in hysteric women), for these are more connected with morbid volition, and are in truth, not perfectly involuntary. In several cases of inveterate sciatica I have seen violent spasmodic flexures of the leg upon the thigh. Cramps of particular muscles are occasionally met with. I have seen the flexors of the toes of the affected limb violently cramped, and in one case there was agonizing cramp of the gastrocnemius. It is chiefly at night, and especially when the patient is falling asleep, that this kind of affection is apt to occur.

A third variety of sciatica is the rather uncommon one so far as my experience goes, in which inflammation of the tissues around the nerve is the primary affection, and the neuralgia is mere secondary effect, from mechanical pressure on the nerve, which, however, is not apparently itself inflamed. I believe that

these cases are sometimes caused by syphilis, and sometimes by rheumatism. One of the most violent attacks of sciatic pain which ever came under my notice was in a syphilized subject, a discharged soldier, who had been the victim of severe tertiary affections, and had been mercilessly salivated into the bargain. This unfortunate man suffered dreadful agony, which was aggravated every night, but was never totally absent. The pain started from a point not far behind the great trochanter: pressure here caused intolerable darts of pain, which ramified into every offshoot of the sciatic nerve, as it seemed, and made the man quite faint and sick. Large doses of iodide of potassium, together with the prolonged use of cod-liver oil, completely removed the pain and tenderness. It need hardly be said that cases of this kind are essentially different, and require perfectly different principles of treatment from neuralgias in which the disturbance originates within the nervous tissues themselves.

The chronic rheumatism does also, occasionally, affect the sheath of the nerve in such a manner as to produce a deposit which sets up neuralgic pain, must also be admitted, although I believe the number of such cases to be preposterously over-estimated by careless observers. It has several times happened that a patient has come under my care with so-called "rheumatic affection of the nerves" of the thigh and leg, and that on examination one has found all the symptoms and clinical history of a neurosis, but not the slightest valid argument for a diagnosis of the rheumatic diathesis. Indeed, upon this point, I think it

is time that a decided opinion should be expressed. I firmly believe that a large number of sciatic patients have their health ruined by treatment directed to a supposed rheumatic taint which is purely imaginary. The state of medical reasoning, suggested by the way in which too many practitioners decide that such and such pains are rheumatic in their origin, is a melancholy subject for reflection. Nearly always it will be found, on cross-examination, that the state of the urine has been made the basis of a confident diagnosis; the practitioner will tell you that the urine was loaded, *i. e.*, with lithtaes. He ignores the fact that nothing is more common, in neurotic patients who are perfectly guiltless of rheumatic propensities, than a fluctuation between lithiasis and oxaluria, neither of which phenomena, under the circumstances, indicates any more than a temporary defect of secondary assimilation of food, produced by nervous commotion. I may perhaps find room, on a future page, for a few further remarks on the subject; at present I only put in a caution against too ready an acceptance of the rheumatic hypothesis.

II. Visceral Neuralgias.

Uterine and Ovarian Neuralgia.– This is an important group of neuralgic affections, and one which I cannot help thinking is strangely misappreciated, very often, in a therapeutic point of view. In one aspect these affections possess a special interest, namely this, that they are more frequently dependent on peripheral irritation for their immediate causation than any other group of neuralgias. If we consider the great copiousness of

the nervous supply to the uterus and ovaries, and the powerfully disturbing character of the functional processes which are periodically occurring in these organs, we shall be at no loss to understand how this may be. The amount force of the peripheral influence and which are brought to bear upon the central nervous system by the functions of the uterus and ovaries are greater than any that emanate from the diseases and functional disturbances of any other organ in the body.

The most common variety of peri-uterine neuralgia is that which attends certain kinds of difficult menstruation. It would be hardly correct to give the name of neuralgia to the pain existing in these very numerous cases of dysmenorrhœa in which the suffering is apparently altogether dependent on the mere retention or difficult escape of the menstrual fluid, although the character of the pain often resembles the neuralgic type. There is another group of dysmenorrhœal affections however, in which the pain may fairly be called neuralgic, since it is apparently independent of the circumstances of the discharge of menstrual fluid, and simply attends the process, seemingly on account of a naturally-exaggerated irritability of the organs concerned. There is a large class of young women in whom, and more especially before marriage, the time of menstruation is always marked by the occurrence of more or less severe pain. Formerly I used to believe that this pain was relieved on the occurrence of the discharge, but I have seen too many cases of a contrary nature to retain this opinion. I now believe that the subjects of the

kind of menstrual pain to which I am referring are naturally endowed with a very irritable nervous apparatus of the pelvic organs, and that there is a certain character at once of immaturity and excitability in their sexual organs, especially in the virgin condition. So far from these females being disposed to sterility, as is too often the case with those dysmenorrhœal subjects whose troubles depend upon occlusion, distortion, or narrowing of the outlets, they are often extremely apt to the generative function; and, what is more, the full and natural exercise of the sexual function appears necessary to the health of their organs, as is shown by the fact that these menstrual pains lose their abnormal character, completely or in great part, after marriage, and especially after child-bearing. The contrast between the two types of dysmenorrhœal patients is sharply brought out by the two following cases:

Case I. – S. M., a housemaid, aged twenty-three when first under my notice, was the picture of physical health and strength, very intelligent, and a girl of excellent character and most industrious habits. At every menstrual period, however, she suffered, for some hours previously to the occurrence of the flow, from severe pain in the uterine region, which was tumefied and tender. Hot hip-baths gave some relief, apparently by hastening the discharge; as soon as the latter was established, the pain rapidly subsided. This young woman married a healthy and vigorous young man, but has never had any children, and at the date of my last inquiries still suffered periodically from her

old troubles.

Case II. – Mrs. B. was married at the age of twenty-six. Up to the date of her marriage she used to suffer the most severe pain at every menstrual period; the pain, however, bore no relation to the freedom of the discharge, but always lasted about the same length of time, under any circumstances, or was only less or more according as the general bodily vigor was greater or less at the moment. From the date of marriage these troubles steadily declined; a child was born at the end of twelve months, and the menstrual troubles have never resumed a serious shape up to the present time, a period of nearly nine years. This lady is herself a neuralgic subject, liable to migraine in circumstances of fatigue, and suffering horribly from it during her pregnancies; and she comes of a family in whom the nervous temperament is strongly developed.

It must not always be concluded, because the menstrual pain is very severe before the discharge and is relieved at or soon after its appearance, that the case is one of occlusion, and not of neuralgia. There is a class of cases in which the affection appears to be a very severe ovarian neuralgia, attended with a vaso-motor paralysis which causes great engorgement of the ovary and consequent difficulty of "ovulation." I have seen several instances which I could not explain in any other way.

Case III. – One patient I particularly remember, from the fact that she was always attacked with dreadful pain, which was sometimes seated in one groin and sometimes in the other, but

was regularly attended with large and palpable tumefaction of the ovary, which began to subside when the discharge commenced. This woman married rather late, but her menstrual troubles immediately became less, and she became pregnant and was happily delivered, nearly as soon as was possible. She, too, was a decidedly neuralgic subject, independently of her tendency to dysmenorrhœal ovarian pain.

In some women who remain single long after the marriageable age, ovarian or uterine neuralgia becomes a constantly-recurring torment, not only at the menstrual period, but at various other times when they are depressed or fatigued in body or mind. As might be expected, this tendency is greatly aggravated in the rarer cases where the patient's mind dwells in a conscious manner on sexual matters, especially if by an evil chance she becomes addicted to self-abuse. Among the many reproaches that have been thrown upon the indiscriminate use of the speculum in examining unmarried women, it has often been urged that it tends to excite sexual feelings. I do not for a moment doubt that this is the case, or that the indiscriminate use of the instrument is altogether indefensible. But I expect that neuralgic pain of the uterus or ovaries, in unmarried women, connected with an already irritable condition of the sexual organs, has often been the reason why such women have applied for advice and have consequently been examined with the speculum; and that the same thing has frequently happened in the case of women who have been left widows at a time of life when the sexual powers

were still in full vigor. These patients deserve great pity.

The peripheral irritation which gives rise to peri-uterine neuralgia is not always originally seated in the organs of generation. The following are various sources of external irritation which I have known to produce the affection:

1. Ascarides in the rectum sometimes produce pelvic neuralgia. A woman, aged thirty-four, single, was under my care in King's College Hospital many years ago, under suspicions of ulcerated cervix. On examination, no lesion could be detected. It was discovered that the rectum was infested with ascarides, and, after the use of appropriate vermifuges and tonics, the patient entirely lost the uterine pains and also a tormenting pruritus vaginæ, from which she suffered. This woman had at various times suffered from neuralgic headache a good deal.

2. Profuse and intractable leucorrhœa, whether associated or not with ulceration of the cervix, may produce peri-uterine neuralgia, even of great severity, when there are strongly-marked neurotic tendencies. It must be noted, however, that many cases of pain in leucorrhœal subjects, which superficially bear the aspect of neuralgia, turn out on closer investigation to be merely examples of myalgia of the abdominal muscles or aponeuroses.

3. Calculus in the kidney, or in the ureter, sometimes causes intolerable ovarian neuralgia. In the case of a woman who was under my care at the Chelsea Dispensary, some years ago, this was the unsuspected origin of severe neuralgic pains in the left ovary, which recurred several times a day, and which certainly

contributed to the patient's death by the exhaustion which they produced. A calculus was found tightly impacted in the ureter, near the kidney.

4. Prolapsus uteri sometimes gives rise to severe peri-uterine neuralgia, or what appears to be such; though it is difficult here to draw the line between neuralgia and myalgia. The commonest kind of pains from prolapsus uteri are not neuralgic in their nature at all, but are of a "bearing down" character, and probably depend upon actual contractile movement of the walls of the uterus.

5. The presence of tumors, either cancerous or fibroid, in the uterus or its appendages, gives rise, frequently, to severe and indeed almost intolerable pains of a distinctly intermittent character. In the early stages of cancerous diseases these pains are usually felt at the lower part of the back; in the later stages they are felt also in the hypogastric region, and are then much more severe.

6. Ulcer of the cervix, of a non-malignant kind, probably sometimes gives rise to neuralgic pain of the uterus, though this is not so severe as in cancer.

7. Large masses of scybalous fæces, impacted in the rectum, will occasionally, by the pressure which they exert on nerves, set up violent neuralgia of uterus or ovaries, the true nature of which is accidentally discovered by the use of aperients which unload the intestine and put an end to the suffering. No doubt it is chiefly in persons with neuralgic predisposition that this

effect is produced; for, common as is the occurrence of extreme constipation in women, it is comparatively very rare for us to hear of distinctly neuralgic pain being caused by it.

8. The condition known as "irritable uterus," ever since Gooch's classical description of it, is always attended with uterine pain, which is continuous, but is liable to periodical exacerbations of great severity. In this disorder there is no recognizable physical disease of the pelvic organs, and the patient will generally be found to have suffered neuralgia in other parts of the body on previous occasions. [There is some difference of opinion about this affection: some authors (*e. g.*, Hanfield Jones) considering it as distinct from the true neuralgias.]

9. Reflex irritation, the source of which is in some quite distant part of the body, has in many recorded instances occasioned uterine neuralgia, in highly-predisposed persons. I have seen one case in which severe pain of this kind was clearly proved to have been excited by the presence of a carious tooth which was itself little, if at all, painful, but the removal of which at once cured the pelvic pain.

Neuralgia of the urethra is an affection which is occasionally seen, both in males and females. I have observed it three times; all these cases were apparently traceable to the effects of excessive self-abuse. The male subject was an unmarried man, aged forty-two, of cadaverous appearance, much emaciated, with clammy, perspiring skin, and habitual coldness of the extremities; he suffered much from dyspepsia and palpitation of

the heart. The pain ran along the under side of the penis, which was very large, with an elongated prepuce. The paroxysms were severe, and came on chiefly in the morning, soon after he awoke. No remedies did this man any permanent good, and he passed out of my sight, being at that time in a condition of wretched feebleness, and with symptoms of threatened dementia. Of the female subjects, one was a married woman, who accused her husband of impotence, and from her account it would certainly appear that effective connection had never taken place; the hymen was completely destroyed, however. The neuralgic pains recurred nightly in several paroxysms, and were especially severe about the time of the monthly periods. In this case the patient was, she stated, induced to give up her malpractices; at any rate, the pain subsided in a manner which could not be well accounted for by any direct influence of the medicinal treatment. The other female patient was a widow in whom the morbid habit was suspected from her general appearance, and from the existence of enlarged clitoris and other signs of irritation about the external parts: she became rather rapidly phthisical, and suffered severely from neuralgic headaches.

Neuralgia of the bladder has been specially described by various writers; the pain is usually spoken of as seated at the neck of the bladder, and as accompanied by frequent desire to micturate. I have seen two cases, both in women: the first was eventually discovered to be an instance of malignant disease of the fundus of the bladder; the other was apparently the result of

a long-continued menorrhœal flux, which had greatly impaired the health, and produced extreme anæmia. In neither of these instances was the pain referred to the external meatus, as in the female patients above mentioned who were suffering from urethral neuralgia. I have never seen the extreme examples of vesical neuralgia described by some writers, in which actual paralysis of the coats of the bladder was secondarily produced; but the reflex influence of the neuralgic affection in both the examples just mentioned appeared to produce great weakening of the muscular power of the rectum, occasioning most obstinate and troublesome constipation.

It would appear, from recorded cases, that both the bladder and the uterus are liable to be affected with neuralgia from malarious influences; but I have never chanced to see any such cases.

Neuralgia of the kidney is spoken of by several writers, and I suppose there is no doubt that it may exist as a special neurotic disease with obvious organic cause. For my own part, I cannot say that I have ever seen it except in instances where there was either the certainty, or a very strong suspicion, that the cause was the mechanical pressure and irritation of a calculus within the kidney. The diagnosis of the simple functional disorder must be excessively perplexing; for in the first place there is the greatest difficulty in making sure that the pain is not external, and seated either in the muscles of the back, or in the superficial dorsal or lumbar nerves, and certainly I am strongly inclined to suspect that

this has been really the case in many examples of so-called renal neuralgia. That neuralgia of the kidney may arise secondarily, as a reflex extension of pelvic neuralgia, does, however, appear probable enough; for it is almost certain that in the latter affection at least, the vaso-motor nerves of the kidneys must be strongly influenced in a reflex manner; since the crisis or acme of a paroxysm of pelvic pain is not unfrequently attended with a copious secretion of pale urine.

Neuralgia of the rectum has been carefully described by Mr. Ashton, but is probably not often seen except by practitioners who possess special opportunities of observing rectal diseases. In the one pure case which has fallen under my notice the patient complained of acute paroxysmal cutting pains extending about one inch within the anus, and, as these were greatly increased by defecation I suspected the existence of fissure. Nothing of the kind, however, was found on examination; and the pain ultimately yielded to repeated subcutaneous injections of atropine. This patient had got wet through, and had sat in his damp clothes, getting thoroughly chilled; the pain came on with great suddenness and severity, and the tenderness which has been mentioned was developed very quickly. Probably the influence of cold and wet is among the commonest causes of the complaint. Mr. Ashton also reckons as causes, reflex irritation from other parts of the alimentary canal, and the influence of malaria. He observes that the subjects of the affection are most frequently anæmic, and of a generally excitable and deranged susceptibility,

and that females, who, from menorrhagia, or frequent child-bearing with much hæmorrhage, have lost a great deal of blood, are specially predisposed.

Neuralgia of the testis (as an independent affection and not a mere extension of lumbo-abdominal neuralgia) is fortunately a much less common malady than the corresponding affection of the ovary; as might indeed be expected, from the much less degree of functional perturbation to which, in ordinary physiological circumstances, the former organ is exposed than the latter. Except from actual growths within the testis, of which it was a mere symptom, I have never seen neuralgia of the testis save from one of three causes. In one remarkable example it was produced as a reflex effect of severe herpes preputialis. Secondly, it is sometimes observed as a symptom of calculus descending the ureter. And, thirdly, I have seen it several times undoubtedly produced by excessive self abuse.

The occurrence of testicular neuralgia, in one case of epilepsy, as to the cause of which I had been previously much puzzled, led to the discovery of the real origin of the fits. I should observe here that I do not believe that self-abuse is ever more than an immediately exciting cause of epilepsy, a predisposition to the disease having previously existed in all cases. In the patient just referred to, there was a family history of epilepsy, but it was difficult to explain the exciting cause until this was suggested by the occurrence of neuralgic pain in the testicle. The patient relinquished his habit, and both the pain and the

epilepsy ceased, and, for some twelve months during which I had him under observation, had not recurred at all. A medical friend has informed me of an instance in which the same habit had produced a neuralgia of the testis so severe as to strongly tempt the patient to castrate himself, and he would probably have done so but that he was too much of a coward with regard to physical pain. The attacks of pain were so severe as frequently to produce vomiting and the greatest prostration.

Hepatic Neuralgia.– It must be allowed that the evidence even for the existence of neuralgia of the liver is at present in an unsatisfactory state. At the same time, there are carefully-recorded cases, by Trousseau and other[7] writers of unquestionable authority, which leave no doubt in my mind, corroborated as they are by a certain amount of experience of my own, that such a form of neuralgia really exists. I must, of course, be understood to refer to something altogether different from the spasmodic pain which is produced by the difficult passage of a gall-stone toward the bowel. I have now seen several cases in which, as it appeared to me, there was sufficient evidence of neuralgic pain seated in the liver itself, and not dependent either on gall-stone or any so-called organic diseases of the viscus.

The subjects of hepatalgia are probably never troubled only by pain in the liver; they are persons of a nervous temperament, in whom a slight shock to, or fatigue of, the nervous system,

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[7] Trousseau, Clinique Medicale. Vanlair, "Des dieffrentes Formes du Nevralgies," Journ de Med. de Bruxelles, tome xl.

habitually provokes neuralgic attacks; the pain localizing itself sometimes in the branches of the trigeminal, sometimes in those of the sciatic, sometimes in the intercostal nerves, etc. In one instance which has been under my observation, the attacks of hepatalgia alternated with cardiac neuralgia assuming the type of a rather severe angina pectoris. In another case the patient, a man aged sixty-seven, was very liable to attacks of intermittent abdominal agony, in which one could hardly doubt that the pain was located in the colon, and was attended with paralytic distention of the bowel; the peculiar feature of the case being the sudden way in which the symptoms would appear and depart, independently of any recognizable provocation or the use of any remedies. On two separate occasions this patient was attacked with pain of a precisely similar kind, but limited to the right hypochondrium, attended with great depression of spirits, and followed by a well-pronounced jaundice. So remarkable was the conjunction of symptoms in these two attacks that a strong suspicion of biliary calculus was raised, but not the slightest confirmation of this idea could be obtained; and indeed one symptom – vomiting – which nearly always attends the painful passage of a biliary calculus, was altogether absent.

Putting aside a considerable number of cases in which "pain in the liver" was vaguely complained of by patients who were plainly hypochondriacal, and whose account of their own sufferings could not be relied on, I have altogether seen five instances of what I regard as genuine hepatalgia. The first

of these was very remarkable in its history and in all its features. The patient was a respectable girl of eighteen, subject to migraine, who had reason to fear that she had become pregnant, though this proved, ultimately, not to be the case. Under these circumstances she was attacked with intermittent pains, in the right hypochondrium, of intolerable severity; resembling, in fact, the pain of biliary calculus, but without the sense of abdominal constriction, and without any vomiting. These recurred daily at about the same hour in the morning, for about ten days; when rather suddenly, a jaundiced tint appeared upon the face, and very shortly the whole skin was colored bright yellow; there was intense mental apathy; the urine was loaded with bile-pigment, and the fæces clay-colored. This state of things lasted only about a week and then very rapidly disappeared; but as the jaundice subsided there was a partial recurrence of the neuralgic pains, which, for a day or two, were as severe as they had ever been; The other four cases of hepatalgia which I have seen, including that of the man above mentioned, have all been in persons in advanced life; but, except the latter, neither of them displayed any symptoms of disordered biliary secretion; and the diagnosis (as to situation, for the character of the attacks was manifestly neuralgic) rested mainly on the fact that the pain radiated to the shoulder.

There remains to be noticed one clinical feature of the disease, which, I believe, is characteristic; namely, the peculiar mental depression which attended all the cases I have seen, but was

most marked in the two in which jaundice occurred. In the girl above referred to, the apathy, during the period when there was jaundice but no pain, was even alarming; it reminded one of the mental state in commencing catalepsy; during the painful stages it was more like the gloom of suicidal melancholia. Of course, the acute mental anxiety which this patient had suffered would account for a good deal of this; but the symptom was as distinct, though less severe, in the case of an elderly lady, whom I have attended on another occasion for migraine; here there was no recognizable source of anxiety; and, on the other hand, there was no reason to suspect the retention of bile-elements in the blood. It seems, therefore, as if an essentially depressing influence on the mind was excited by hepatic neuralgia; or else, that emotional causes are the chief source of the malady.

Neuralgia of the Heart.– If there be any hesitation in treating this disease as exactly conterminous with angina pectoris, it can, I think, be only reasonably justified on two grounds: In the first place, it may be urged that acute pain of the neuralgic type is not always present in angina pectoris; and, secondly, it may be urged that many cases of painful neurosis of the heart have been observed, in which the recurrence of pain with some amount of cardiac embarrassment has gone on for years, whereas the popular conception of true angina almost necessarily involves rapid fatality.

There is doubtless some force in these objections, especially in the second, for it does seem rather inconvenient to call by the

same name so deadly a disorder as the worst form of angina, and so comparatively harmless a malady as some of those instances of chronic tendency to spasmodic pain of the heart which are not very uncommon, and in which the patient survives, perhaps, to an old age. Yet, after all, there is the greatest difficulty in drawing any rational line of distinction; for the basis of the affection seems the same in every case, whether pain or spasm be the predominant feature, and whether the course of the disease be long or short. All that appears to be necessary for its production is a certain originally neurotic temperament (with possibly some congenital weakness or some post-natal disease of that part of the spinal-cord centres which Von Bezold has described as furnishing three-fourths of the propulsive power of the heart) and the presence of almost any kind of difficulty or embarrassment of the action of the heart. The most common source of this embarrassment is perhaps failure of nutrition in the muscular walls of the heart, from disease of the coronary arteries. Indeed, it is not known that any organic change of the heart or great vessels, even of the slightest kind, is necessary to the production of angina; on the contrary, there is every reason to think that mere fatigue and depression may bring on the attacks in persons of a strongly nervous temperament. For my own part, I am inclined to believe, however that there really always is disease somewhere in the cardiac centre of the spinal cord, though that disease may consist in no more than a disposition to minute interstitial atrophy. But we shall say more about this presently.

It is at any rate certain that cardiac neuralgia is always a most grave complaint, from the almost total uncertainty whether succeeding attacks will not involve a fatal amount of spasm. As for the expression angina pectoris, it is just one of those mischievous terms which, arising out of the mystified ignorance in which the elder physicians found themselves as to the pathology of internal diseases, have since been attached in turn to various definite organic changes, with none of which they had any essential connection; and it is therefore much to be wished that it could be altogether done away with. At the same time, there is so much that is peculiar in the case of cardiac neuralgia, owing to the importance of the organ affected, that it will be necessary here to treat not merely its symptoms, but also its diagnosis, prognosis, etiology, pathology, and treatment, in a separate and continuous manner.

Clinical History and Symptoms.– Cardiac neuralgia usually shows itself for the first time with considerable abruptness. The patient may or may not have been consciously ill before the actual seizure, but it rarely happens, even when the heart has notoriously been the subject of some organic disease, that there has been any thing to lead him to expect the kind of attack from which he now suffers. In the midst of some little unusual effort, or even without this kind of provocation, suddenly the patient is attacked with severe pain, usually at the lower part of the sternum; this pain darts through to the back and left shoulder, and nearly always runs down the left arm. Sometimes, indeed, it

is felt acutely over a large area of the chest, and runs down both arms; this is the case in a patient now under my care, in whom the affection is more obviously a neurosis, and less attended with coarse organic changes, than is usually the case. Along with the pain, which is always very distressing, but varies greatly in severity in different cases, there is a variable amount of another sensation which can be compared to nothing but cramp, or rather compression; the patient usually describes it as feeling as if some one were grasping the heart in his hands, and, when this sensation is at all prominent, the idea of impending death is most strongly impressed on the sufferer's mind. His outward appearance seems to confirm the idea. In cases where the sense of compression is great, the face is of an ashen gray; the lips white, with a faint livid tinge; the pulse small, feeble, and unrhythmical, or imperceptible, at the wrist; cold perspiration breaks out upon the face; in short, all the signs of approaching dissolution are present. In cases where the suffering is chiefly or entirely confined to severe pain, of a darting or burning character, the state of the circulation is often different. The heart bounds against the ribs, in rapid and painful palpitation, the face is flushed deep crimson, the pulse at the wrist is large, bounding, but very compressible; in fact, the outward appearance of the patient is so different from that of one who suffers from the more depressing kind of angina, that it is difficult to consider the two affections as essentially similar. But there can be no question, if we carefully examine the matter, that they are mere varieties of the same

disorder, especially as they both may successively occur in the same person.

The course of cardiac neuralgia varies extremely. Supposing the malady to be purely neurotic, and not complicated with organic disease, which forms a constant source of cardiac embarrassment, then the patient may only experience one or two attacks, under some special circumstances of exhaustion, which may never recur; or, on the other hand, he may develop a strong tendency to cardiac neuralgia which may beset him during almost any number of years. In the latter case, it is an even chance whether the patient will at last sink from the anginal affection; for, even supposing him to escape any fatal intercurrent disease of an independent nature, the fatal event may be at last produced by cerebral softening, or by apoplexy, or other central nervous disease. In fact, the frequency with which the latter kind of termination occurs is very significant of the essential nature of the disease.

The manner in which cardiac neuralgia commences varies very greatly. In the celebrated case of Dr. Arnold, the first attack did not occur till he was forty-seven years of age; it at once assumed full intensity, and proved fatal in two hours and a half. There is also reason to believe that Dr. Arnold's father died in a first attack of angina. I have myself known a first attack prove fatal in the course of an hour; there was very considerable ossification of the coronary arteries and fatty degeneration of the heart-walls. Again, there are many cases which commence

gradually, and with great mildness, and with little appearance of danger to life in the first attacks; but the subsequent attacks are progressively more severe and dangerous up to a fatal result, after weeks, months, or years. On the other hand, I have known three instances in which the first attacks of spasmodic heart-pain very nearly proved fatal, but the subsequent fits were milder (in one there was no second attack): all those patients are living, six, eight, and three years respectively, after their first attacks.

It can hardly be doubted that neuralgic spasm is the true cause of sudden death in some cases of stenosis of the aortic orifice, which, but for some accidental circumstances, would not have died suddenly at all, but would have gone through a long and gradual course of deterioration. I particularly remember an instance in which extreme and calcareous constriction of the aortic orifice, in a boy not yet come to puberty, was entirely unsuspected, until one day, in running fast, he screamed out and fell down, and was almost instantaneously dead. I remember another case very similar, in which extreme mitral constriction produced almost as sudden death, apparently from painful spasm, under the same kind of exertion. On the other hand, sudden death, when produced by the form of heart-disease which (as Dr. Walshe points out) is most likely to cause such a catastrophe, viz., aortic regurgitation pure, without hypertrophy, does not seem to be due to painful spasm, but to simple and complete failure of the muscular power, and is perhaps partly of the nature of paralysis from a syncopal condition of the brain, the unhypertrophied

heart having become for the moment unable to supply blood enough to the brain to carry on nervous function at all.

Конец ознакомительного фрагмента.