arthritis is the syrup of the iodide of iron; but such means are, though valuable, but palliative, and if the disease be of toxic origin, the ideal line of treatment should be one directed to the source of the toxæmia; and in a good few cases there is some obvious possible source of absorption, that is, oral sepsis, chronic fluxes, diarrhoea, leucorrhœa, otorrhœa, etc.

Radical treatment, if possible, of such conditions when present, could not fail to be of benefit to the general health of the patient, and in early cases the joint condition. The rise and wane of the periarticular swellings in their early days seem to indicate a possibility of complete recovery; and the periodic variations in size of the thyroid gland may perhaps have some deeper significance, bearing upon the reactionary power of the individual.

In conclusion, I would express my gratitude to the honorary staff of the Mineral Water Hospital for their kindness in permitting me to observe these cases.

NEURASTHENIA: THE WEAR AND TEAR OF LIFE.

By GUTHRIE RANKIN, M.D., M.R.C.P.,

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THE term "neurasthenia" was first given in 1879 by Beard, of New York, to a group of symptoms which, though sometimes ill-defined and always capable of infinite variation, yet retain a general relationship which serves for the groundwork of a disease entity, little understood and never described before Beard's time, but through his investigations and those of many successors nowadays universally recognized as a formidable enemy of mankind. Speaking generally, neurasthenia may be regarded as a derangement of function resulting from exhaustion of nervous energy. The causes upon which it depends are varied and often obscure, but, despite the testimony of contrary opinion, it can scarcely be denied that the increasing wear and tear of life at the present day probably plays the most important part in its etiology. It is not suggested that the greater pace at which the world moves is the sole explanation. The disease has probably existed from the remote ages, but it seems unlikely that it can have been prevalent in the earlier periods of the world's history, else it could not have escaped description at the hands of the many eminent clinical observers of ancient days. And even coming down to recent times, it will be admitted by most physicians that in their individual experience the number of cases which they are compelled to classify as neurasthenics is infinitely greater than a few years ago; that it is one of the disorders which in its prevalence has become fashionable enough to be designated "the disease of the century"; and, most noteworthy of all, that its victims are to be found in far greater abundance among the restless inhabitants of busy communities and large centres of industry than in country districts where life is passed under conditions of uneventful monotony, and of prosaic, unexciting occupation and duty.

Cases occur in rural as well as in urban districts, but the former bear but a small proportion to the latter, and are usually found to have been determined by a definite cause, such as an accident, adversity, or mental shock. The dweller in town, on the other hand, frequently develops all the classical features of the disorder without any unusual occurrence in his life or circumstances to account for it. He has been living his ordinary everyday existence; but this is one of continuous high pressure, and ultimately his staying power becomes overtaxed, and terminates, without the development of organic disease, in a functional wreckage which is the expression of Nature's revenge for the lack of due attention to her imperative demand that rest as well as work is necessary for the maintenance of the *mens sana in corpore sano*. But the fault does not always or wholly lie at the door of a badly-regulated life. The original capital of nervous force with which humanity is endowed is not the same for every individual. One man is descended from ancestors who have been proverbially healthy, and have most of them attained long lives; another is the inheritor of a nerve instability which has manifested itself either in his immediate or remote progenitors in various forms of mental trouble or nerve disorder. Obviously, the latter individual has a serious handicap

to begin with, and is more likely than the former to break down under the stress of work and worry.

To all who are exposed to excessive and prolonged attacks upon the citadel of their vitality, capitulation of their resistive power may follow at any moment, and unless such early warnings of waning energies as sleeplessness, incapacity for mental concentration, physical languor, and disturbed digestion are given heed to and counteracted by proper means, the sufferer will inevitably find himself ere long in the midst of neurasthenic tribulations, from which it will be tedious and difficult for him to emerge. A short period of rest and leisure may, if adopted in time, restore a life which would otherwise become miserable to its possessor and wholly unequal to its daily task of usefulness and healthy activity.

The disease is widely distributed, and, though specially prevalent in America, is met with in all the civilized countries of both hemispheres. "It is," says Proust, "equally spread amongst all civilized peoples in whom the struggle for existence keeps up an incessant and exaggerated exaltation of the functions of the nervous system. To-day every one endeavours to raise himself higher than his ancestors; competition has increased; conflicts of interests and persons have multiplied in all conditions of life; free course is given to ambitions that are often little justified; a crowd of individuals impose on their brains a work beyond their strength; then come cares and reverses of fortune, and the nervous system, under the wear and tear of incessant excitation, at last becomes exhausted."

We are still in ignorance of the pathological conditions underlying the disease. It is seldom a direct cause of death, and therefore very few opportunities have arisen for *post-mortem* investigation. In a small number of traumatic cases where death has ensued, punctiform hæmorrhages have been found scattered throughout the brain and cord, but these cannot be looked upon as necessarily explanatory of the symptoms. Various theories have been advanced to satisfy the clamourings of our ignorance, but none of them is wholly satisfactory.

Bouchard attributes the disorder to abnormal fermentations in a stomach which, in virtue of heredity or congenital weakness of its muscular coat, contracts insufficiently in the intervals between different periods of digestion. Under these circumstances he believes that soluble toxins are produced which, when reabsorbed, impair the anatomical elements of the different organs, and notably those of the nervous centres.

Another theory suggests that the disease is due directly to vitiation of nutrition, the result of imperfect digestion. The dyspepsia need not, according to the advocates of this hypothesis, be necessarily associated with gastric dilatation, but it produces, sooner or later, anaemia, which in its turn gives rise to depression of the nutritive activity of all the tissues of the body, and more particularly of the nerve elements.

Glénard has endeavoured to explain both the dyspepsia and the neurasthenic symptoms by a sinking of the viscera in the abdominal cavity; but, though enteroptosis exists in a certain number of cases, it is the exception rather than the rule.

The prominence of vasomotor phenomena in the symptomatology of the disease has led to a suggestion that low blood pressure, causing an overloading of the portal circulation and an imperfect filling of the heart, may be the responsible pathological factor in the etiology.

The frequent association of neurasthenia with Graves's disease, osteo-arthritis, and the menopause in women—in all of which vasomotor disturbance plays a prominent part—lends some apparent likelihood to such a theory; but, in the light of recent research, it may well be asked whether all of them are not due to one or more toxic influences which have yet to be discovered.

Whatever the ultimate nature of the pathogenic origin of neurasthenia may prove to be, the functional disturbances which the disease produces appear to depend upon some primordial alteration of the nerve cells which we do not yet understand.

In its incidence, neurasthenia is most frequently met with between 20 and 40, though it may set in at almost any age. It attacks men more frequently than women, and is specially apt to affect those of neurotic inheritance, or those who live under conditions of mental or physical tension. All forms of excess predispose to its occurrence; it is therefore not infrequently the Nemesis of a life spent in luxurious idleness and self-indulgence. It is probable that the present-day system of education, with all the anxiety produced by endless examination tests, may often be answerable for the earliest

beginnings of nerve instability. To the mental training there has also to be added the schoolmaster's craze for athletic development, often carried far beyond the physical strength of the growing boy or girl, and again leading to a depletion of the reserves of energy, which bodes ill for the future capital account of those who, in youth, are compelled to give such hostages to the fortune of their vitality.

In the great majority of cases neurasthenia is a disease of gradual development, but occasionally it sets in acutely and can generally be referred either to some form of serious mental shock or to an accident which subjects the nervous system to severe physical jarring. Its symptoms are so varied that it is well-nigh impossible to give a comprehensive description of it, but the leading feature of every case is a constant sense of weariedness which prevents the comfortable accomplishment of any act demanding sustained effort. The sense of weakness may declare itself mostly through cerebral or mostly through spinal centres, but there is, as a rule, such an amalgamation of manifestations that it is both superfluous and confusing to follow the descriptive plan of those writers who attempt to differentiate between the one and the other. It is true that in one instance the symptomatological grouping will be mostly cerebral and in another mostly spinal, but no case is ever entirely referable to either the brain or to the spinal cord. Besides, cases are abundant in which the foreground of the picture is prominently devoted to local manifestations, which may belong to the cardio-vascular, gastro-intestinal, or sexual system almost exclusively.

It mostly happens that the patient, who has been indefinitely out of health for some time, is at last driven to the doctor because of this sense of languor, to which has lately been superadded sleeplessness and impaired digestion. He ascribes all his discomfort to some passing disturbance of that much-abused organ—his liver—and feels confident that once it is put right he will speedily be quite well again. But his friends tell you that within recent times his temperament has become entirely changed; that, whereas he used to be cheerful, happy, obliging, and sociable, he has become moody, captious, introspective, and selfish. He may be emotional, especially when the subject of his present state of health is referred to, and he never wearies of relating the manifold and complex ailments from which he believes himself to be suffering to the few persons he admits to his intimate friendship. From the point of view of physiognomy, two distinctive types of the disease are met with—one, the patients belonging to which are depressed and sullen, and another in which they are excitable and voluble in speech. The former type is thus graphically described by Bouveret: "The patient is pale and thin, without strength or courage, and always sad and dejected. He sees everything from the worst side; he rarely smiles; he goes along with his head down, avoiding the looks of others, his eyes languid and dull; he hardly dares look people in the face when he speaks to them, and the vagueness of his look is, as it were, a sign of powerlessness, an avowal of the inferiority of his moral strength; he always has the gait of a tired man; he is usually very sensitive to cold, and is clothed in summer almost as in winter; his speech is slow, broken, and trailing. This neurasthenic is not talkative."

The latter type is represented by the patient whom Charcot has distinguished by the descriptive title of "the man with slips of paper." He is plump, fresh-complexioned, and capable of a certain amount of activity. His speech is ready, and he enters with avidity into an interminable recital of discomforts and unpleasant sensations which are not harmonious with his general appearance. He is possessed with fears that the full gravity of his condition will not be appreciated, and is so afraid of forgetting the innumerable details of his ailment that, at the outset of his consultation, he produces a formidable manuscript statement of his woes and miseries, about every one of which he has endless questions to ask. This neurasthenic is well known in every consulting room, and is the terror of the busy physician.

Between these extreme types there is a great variety of intermediate forms, but in every case of neurasthenia the following individual symptoms will be found grouped in every conceivable combination: The tongue is usually frothy, dry, and tremulous; it is often also abnormally red. There is no active appetite, but the patient is tempted to eat because of the uncomfortable sense of sinking at his epigastrium, which is temporarily relieved by the taking of food. His bowels are uncertain, being too loose one day and not acting at all the next. He is constantly troubled with flatulent distension of his abdomen, accompanied by frequent eructations which are often disagreeably sour and acrid. The

motor power of his stomach may become so seriously impaired that dilatation ensues. He is liable to an uncomfortable form of spasm affecting his colon; and Clifford Allbutt has pointed out that, under such circumstances, it is not uncommon to find in the neighbourhood of one of the flexures a soft sausage-shaped tumour which slips away from under the hand on gentle pressure, and which varies in position from day to day but is always in the axis of the large intestine. As a rule the kidneys are overactive; the urine is of low specific gravity and often loaded with phosphates. It is worthy of passing note that in an appreciable number of cases, one or both kidneys are abnormally loose. There is no interference with the functions of the bladder, but micturition may be accompanied by urethral smarting and is occasionally followed by the discharge of a small quantity of prostatic mucus which always causes the patient grave concern and suggests to his alarmist mind sexual horrors of every description.

Headaches are invariably associated with neurasthenia, and the patient is seldom free from them on first waking in the morning. The head sometimes feels as though it were encased in an unyielding iron frame—the "casque neurasthénique" of the French. The pain is usually vertical or occipital in distribution, but it may involve the whole cranium. It is subject to acute exacerbations under the influence of the slightest fatigue or excitement, and it always leaves behind such hyperaesthesia of the scalp that for days it may be almost impossible to brush out the hair. A mild form of vertigo sometimes accompanies the headache, but it is not associated with aural symptoms. The muscles, especially those of expression, are tremulous when put into use, and one or other set of them may become the seat of unpleasant and uncontrollable clonic spasms. When the tremor affects the whole muscular system, it closely resembles that met with in cases of exophthalmic goitre. Every muscular effort is quickly followed by a distressing sense of weakness, which varies in intensity from day to day, but never goes the length of a true paralysis.

The instability of the vasomotor system is manifested by flushings, sweatings, cold hands and feet, throbbing vessels, and palpitation. The knee-jerks are exaggerated, and possess this striking characteristic that when the patellar tendon is tapped in the ordinary way the resulting reflex movement is not confined to the leg, but often extends to the trunk of the body, so that the patient is jerked off his seat by the violence of the reflex act. In a patient under present observation the consequence of tapping the patellar tendon goes even further than this, and invariably brings about an epileptiform attack of a hysteroid character. In marked contrast to this hyper-excitability of the patellar tendon the plantar reflex is either feeble or entirely absent, and the toe-phenomenon is always flexor. This reflex antagonism was first called attention to by Buzzard, and is, in a doubtful case, valuable evidence in favour of a functional as opposed to an organic lesion. There may be a spurious ankle-clonus, but it is not maintained beyond two or three movements. The gait is not that of health, nor of any well-known disease of the nervous system; it is neither ataxic nor spastic, but walking is carried on with manifest difficulty, every step being executed at the expense of an enormous effort to clear the feet from the ground, to which they seem to be glued.

Sleep is always disturbed, and is often prevented by spasmodic jerking of the limbs, rushing sounds in the ears, extreme abdominal distension, or a sense of fullness and pulsation in the head. When at last, in the early hours of the morning, the patient drops off, the rest he gets is broken by dreams, often of a terrifying nature, and after a few hours he wakes unrefreshed, and with a sense of inertia, as though he had never closed his eyes.

The special senses are upset in various ways. The visual field may be contracted, there is frequently indistinctness of vision from asthenopia, and muscae volitantes are a source of constant worry. Buzzing noises in the ears are complained of, and are sometimes accompanied by impairment of hearing. A bitter taste in the mouth may entirely prevent the enjoyment of food, and subjective sensations of smell may haunt the nostrils continually.

Common sensation is impaired either in the direction of hyperaesthesia, paraesthesia, or anaesthesia. Muscular or neuralgic pains are seldom altogether absent. They are situated, for the most part, in the back, whence they radiate to the legs and arms. Not uncommonly one particular vertebral spine is tender to touch, and is referred to as the centre from which all the shooting pains emanate. In

women the coccyx is sometimes the seat of acute suffering, and the fifth or sixth intercostal nerve on the left side is, in some unaccountable way, often selected for neuralgic manifestations. The heart is irritable; its action may or may not be persistently rapid, but it is always subject to immediate acceleration on the least physical exertion or mental emotion. The patient is uncomfortably aware of its beatings, but, unless in the presence of anaemia, no murmurs are to be heard at its orifices. Pains in the precordial region and attacks of pseudo-angina are common, and are liable to produce a state of extreme dejection and depression. The pulse is full, compressible, and sometimes irregular. Arterial throbbing may be visible to almost as great an extent as in aortic regurgitation; the pulsations of the transverse aortic arch in the suprasternal notch or of the abdominal aorta in the epigastrium may even be so pronounced as to raise a suspicion of aneurysm. Morbid fears possess most neurasthenics. These may assume various phases, but the most constant are a dread of being in an enclosed space—claustrophobia, or its opposite, a dread of crossing an open space—agoraphobia. The former is the more common of the two, and often takes the form of an unreasoning fear of being taken ill in a crowded church or theatre from which escape will be impossible.

The general intellectual condition is variable, but its most prominent characteristics are loss of memory and difficulty of mental concentration. A more or less marked degree of amnesia is often the first indication of failing mentation. The patient forgets the names of individuals, and has a difficulty in finding the proper words to describe familiar objects. In writing, he misspells his words and expresses himself badly. The effort of conversation or writing soon becomes, like every other effort he makes, followed by profound exhaustion. With these defects there come to be associated vacillation of purpose, feebleness of volition, and failure of initiative. All interest is lost in the affairs of every-day life, and the patient possesses neither energy nor will force to shake himself free from the concentration of his feeble powers of attention on his own forlorn state, or from the exercise of his faulty and capricious judgement on the means which he deems necessary for the restoration of his health and energy. He often sees no way out of his miseries but in an appeal to suicide, but, except there be a hereditary tendency to insanity, he seldom puts his oft-proclaimed purpose into execution.

The duration of the disease depends largely upon the circumstances and surroundings of the patient. When the cause is overwork, a suitable holiday will probably speedily bring about recovery. But in many instances a relapse occurs soon after a return to the usual routine of every-day life, and in such, though old age may be attained, there is risk of more or less permanent invalidism. There is, moreover, always a danger that the failure of repeated attempts to effect a recovery may tempt the patient to find relief to his symptoms in an appeal to morphine or chloral for the cure of his insomnia, to cocaine or some other of the numerous analgesic drugs for the mitigation of his pain, or to alcohol for an escape from his overmastering depression and languor. If an illegitimate indulgence in any of these is permitted, either by the well-meant but injudicious advice of friends, or by the weak-kneed indifference of the doctor, or by the yielding of the patient himself to the temptation they constantly set before him, the possibility of his becoming a hopeless slave to narcotics or stimulants, or both, is a serious contingency which must ever be kept steadfastly before the prognostic eye.

There is one variety of the disorder which, at least in its earlier developments, comes rather within the domain of surgery than medicine, to which short reference must be made in order to make the picture complete. It bears all the stigmata of ordinary neurasthenia, but it possesses this important characteristic that it is initiated by an injury or shock, and can therefore be referred to a definite cause. A railway or other accident which causes grave concussion of the cerebro-spinal system is the most frequent form of antecedent injury, and though in many instances the evidences of nervous breakdown ensue immediately after, it is remarkable that more commonly an interval, varying from a day to several weeks, in which the patient is apparently perfectly well, intervenes between the occurrence of the accident and the first manifestation of nervous symptoms. The patient may at first be dazed and stupid, but without complete oblivion as to what has taken place, or he may be restless and hysterical.

He then either immediately glides into neurasthenia or

rapidly regains his normal composure for the time being, but subsequently develops the usual signs of nervous prostration and instability. These are in all respects similar to the symptoms of the idiopathic affection, but general paresis is often more marked, and localized monoplegias, mostly affecting the lower limbs, are not unusual. Hystero-epilepsy is said to be a frequent sequel in traumatic cases, but though not unknown elsewhere, it is comparatively rare outside of France.

The sequential dangers to be feared after neurasthenia are mostly referable to the nervous system. Hysteria in women and hypochondriasis in men are the most frequent complications, and, when there is an inherited tendency to mental disease, the neurasthenic attack may prove to be the first step downwards in the direction of insanity. A concussion or jar severe enough to produce neurasthenia, but unaccompanied by apparent tissue lesion, has frequently proved the starting-point of various forms of cerebral and spinal sclerosis.

Exophthalmic goitre sometimes supervenes on neurasthenia, and interesting speculations as to the closeness of the relationship between these two disorders are, as has already been mentioned, suggested by the similarity of many of the symptoms common to both of them.

As regards prognosis, the majority of cases ultimately recover, and even when complete restoration of health is not achieved, life itself is rarely threatened. Inveterate cases may go on from bad to worse until the patient's career is ultimately terminated by an incurable melancholia or dementia, but even after the continuance of complete disability over a period of years, a striking event in the patient's life, such as a sudden and unexpected accession of fortune, may speedily dissipate the symptoms from which he has so long suffered, and he may recover the full usefulness of a vigorous and active existence. Unfortunately, even after recovery has taken place, relapses are so liable to follow that the possibility of permanent cure must always be stated in terms of guarded circumspection. The outlook is most favourable when the patient is in comfortable worldly circumstances, and is thus enabled to secure the rest, change of scene, and other appropriate addenda of treatment without attendant worry as to ways and means.

In well-marked cases there is seldom any difficulty in diagnosis, but it is important to bear in mind the possibility of the coexistence of organic disease. Neurasthenia merges almost imperceptibly into other morbid groups, and it is impossible to draw a definite boundary line between it and such closely allied conditions as hysteria or hypochondriasis. Examination of the urine and of the fundus oculi should never be omitted so as to minimize the danger of overlooking structural diseases of the nervous system or of the kidneys, in many of which the early stages present symptoms of a distinctly neurasthenic type.

The resemblance to Graves's disease is so great that certain diagnosis may, for a time, be impossible, but a persistent pulse of 120 or more, accompanied by vasomotor disturbances, is distinctly in favour of early exophthalmic goitre, whereas the existence of morbid fears, especially of claustrophobia or agoraphobia, is an equally strong argument in favour of neurasthenia. The neurasthenic is not emotional to the like degree as the hysteric, nor does he crave in the same way for sympathy. In traumatic cases it is always necessary to guard against the possibility of malingering or deliberate simulation, especially when questions of compensation are in the balance.

As regards treatment, rest is the first and obvious indication, and it must always be both mental and physical. Its power for good is intensified by the moral effect exercised on the patient by his physician and his surroundings. His enfeebled will-power is keenly susceptible to the influence of his environment, and in the seclusion of a nursing home the medical attendant has great opportunities for diverting his patient's mind from its usual gloomy and introspective imaginings by judicious management and by recourse to the various hygienic and therapeutic measures which are calculated to restore his energies and lost courage. In mild cases the requisite amount of variety and rest may be got from a sea voyage, a trip abroad, or a change of scene and surroundings at home; but no routine method is universally applicable, and it often happens that the breakdown has gone too far to leave sufficient energy for the enjoyment of either travel or recreation. Under such circumstances a course of Weir-Mitchell treatment will yield the best results. The essentials of this method are continuous rest, enforced feeding, and massage, and those require to be maintained over a

period of six or eight weeks if a permanent benefit is to be achieved. Electricity is often of signal service as an addition to the other details of a rest cure. Its success is perhaps mostly due to its suggestive influence on the patient's mind, but it also undoubtedly promotes metabolism, stimulates muscular activity, and exerts a soothing and pleasant influence on the nervous system. When the rest cure is finished, the improvement gained will be made more lasting if the patient pays a short visit to the country, seaside, or a suitable spa before re-entering the field of his daily labour. Though drugs play a secondary part, they ought not to be wholly neglected. When there is much restlessness, and particularly when the sleep at night is broken, the bromides in suitable doses will be found of advantage. It is often a successful plan to order one or other of them in combination with arsenic or strychnine during the day, and, should insomnia still persist, to provide for it separately by 20 gr. of sulphonal, trional, or chloral-amide, or 5 gr. of chloralose at bedtime. As soon as the sleep habit has been re-established the hypnotic should be dropped, and on disappearance of the restlessness the bromides also may be withdrawn. When the simple hypnotics fail to induce refreshing sleep the question of the eligibility of narcotics arises. Much has been written against the use of morphine, on account of the risk of creating an unconquerable habit, but if care is taken not to extend its employment beyond the immediate necessities of the case, it will be found that a few small doses, given hypodermically on successive nights, will have the desired effect without the least subsequent risk of habitual dependence on its influence. If anaemia is present iron in one of its milder preparations should be administered; and when vasomotor instability is a prominent symptom, there is no drug which exerts a better steadying influence on the circulation than ichthyol. It may be given in doses of from 5 gr. to 10 gr., and is often usefully combined with cannabis indica and one or other of the nerve tonics. A combination of 5 gr. of ichthyol, 5 gr. of reduced iron, $\frac{1}{2}$ gr. of arsenious acid, and $\frac{1}{4}$ gr. of extract of cannabis indica will be found to meet successfully the requirements of a large proportion of cases. As soon as the digestion is strong enough to deal with it, cod-liver oil should be added to the daily regimen. It is best given in one dose of half an ounce at bedtime, and it may be advantageously combined with a like quantity of maltine.

The bowels must be carefully regulated by a simple aperient, if such be required, and the activity of the liver will be promoted by an occasional dose of calomel or blue pill. When there is much discomfort from flatulence valerian fulfils a useful rôle; its nauseous taste may best be obviated by choosing the zinc salt and giving it in the form of a pill or capsule. If headaches are severe and persistent they will be relieved by the exhibition of one of the numerous analgesics so much in vogue nowadays. The most dependable is probably antifebrin, which should be ordered in doses of not less than 5 gr. Alcohol must always be used sparingly, if at all. A tumblerful of well-matured stout taken with luncheon is often enjoyed, but in many cases a light Burgundy or claret is preferred, and agrees better. In traumatic cases, if there is much complaint of spinal tenderness, the use of a Paquelin cautery often affords marked relief to the pain.

Measures of prophylaxis ought not to be neglected. Children born of neuropathic parents should be safeguarded from the risks of their heredity by strengthening, as far as possible, the energy and resistance of their nervous centres. This can best be done by employing every hygienic means, during their developmental period, to ensure such a physical and moral education as shall substitute an acquired stable individual habit for an inborn unstable tendency without risk of over-pressure. An adult who has once suffered from neurasthenia may do much to lessen the risk of recurrent attacks by careful regulation of his daily habits of life.

He must arrange his work so as to avoid undue fatigue. He should have long nights in bed, observe regularity in regard to his meals and exercise, and make a point of seeking periodically a short respite from the daily routine of duty by a change of scene and surroundings. He ought to decline all responsibilities involving prolonged worry or anxiety, and every slight ailment should be treated with more than ordinary care, so as to lessen the risk of strain on his nervous system.

THE Fifth International Congress of Applied Chemistry will be held at Berlin from June 2nd to 8th. Communications should be addressed to the office of the Congress, 21, Marchstrasse, Charlottenburg.

CASE OF MIGRAINE WITH OPHTHALMOPLÉGIA.

By JAS. W. RUSSELL, M.A., M.D.CANTAB., M.R.C.P.,

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S. J., aged 13, was admitted into the Birmingham General Hospital on August 11th, 1902. In the absence of Dr. Saundby, to whom I am indebted for permission to publish the case, he came under my own care. He complained of periodical attacks of headache and sickness, to which he had been subject since birth, and of a more recent paralysis of certain muscles of the left eye. For the latter affection he had been admitted into the Birmingham and Midland Eye Hospital, under the care of Mr. Jameson Evans, by whom he was transferred to the General Hospital.

History.—The family history presented little of interest. Both father and mother were alive and well, as were three younger brothers. The father, however, had suffered from rheumatism. The maternal grandfather died suddenly from heart disease. There was no history of headache, epilepsy, or other nervous disorder in the family, nor had the patient suffered from any nervous complaint other than that for which he was admitted. The attacks dated from birth, which lasted four days, and ended in delivery by forceps. A fortnight later he had an attack of sickness, and similar attacks have recurred from that time with great regularity, being accompanied by complaint of severe headache since he has been old enough to make himself understood. The interval between the attacks has generally been about a fortnight, and has never exceeded a month; and it has been noticed that the ensuing attack has always been worse after an unusually prolonged interval. On the other hand, a second headache occurring after a few days' interval has generally been mild, and of short duration. For the last six years the attacks have been accompanied by drooping of the left eyelid and strabismus, which at first passed off in the intervals, but has become persistent during the last two years.

Fig. 1.

State on Admission.—The patient was a healthy-looking lad, of good intelligence. Examination of the various organs showed nothing abnormal, and the urine was free from albumen and sugar. The right eye was normal in movement and reaction. On the left side there was a slight degree of ptosis, marked external strabismus, and extreme dilatation of the pupil, with complete loss of reaction to light and accommodation. The external rectus and superior oblique acted normally. The internal rectus contracted with considerable effort, but the eye failed to reach the inner angle of the lids, and quickly fell back to its position of external rotation. All upward movements were entirely abolished, and the inferior rectus appeared to be paralysed, the eye being drawn downwards and outwards on any attempt at downward movement. The optic discs were normal. There was no paresis of the face, tongue, or limbs, and Romberg's sign was absent. Both knee-jerks were somewhat exaggerated. Fig. 1 shows the condition at this stage of the disorder.