June, September, April, August, May, October, December, March, November, January, July, February.

Now, the first fact which strikes is, that the two augmentations in the admissions noted above, the one in January, the other in April, May, and June, (that of December belongs, under this point of view, to the year 1846,) are felt (*retentissent*) upon the numbers of the discharged at intervals sufficiently well determined. Thus the number of admissions in January is very high; the proportion of the dismissals, instead of augmenting in the following month, diminishes. It does not increase till the month of March, and still more the month of April. At this time there occurs a rapid increase of admissions; the old invalids are dismissed; beds are made up, to use the appropriate expression; and the number of the dismissals is increased. But then follows an interesting phenomenon, and having a different signification; from April to May, the amount of admissions augments, that of the dismissals diminishes; from May to June the reverse occurs; the admissions diminish, whilst those going out increase in number.* Here, evidently, the necessities of the service have no part in the movement. In order then that the dismissals may become less frequent, as the admissions become more numerous, and *vice versa*, some other cause is requisite than the degree of frequency of the diseases, and this can only be their importance and their duration. If there are *proportionally* fewer patients discharged in May than in April, whilst there are more admitted, it is evident that the individuals admitted during this last month must continue to increase the population of the hospitals, that is in a certain number the disease is prolonged. So also, if in June there are discharged proportionably more patients than in May, at the same time that there are fewer admitted, it is because a certain number of individuals still in the hospital in this last month feel themselves in a state for leaving. This phenomenon is then analogous to that we have just noted after the increase of January, that is to say that in either case an increase in the number of admissions leads to a diminution in the number of those going out; in the same way as the increase of January has not caused the number of those going out to swell until March, while the increase of April, aided by that of the month of May, does not swell out the analogous number until in June. If we follow up the subject we shall see the month of June again very rich in admissions, followed by a month very poor in dismissals; the month of June is, in fact, thrown nearly to the extremity of the calendar; the month of August, on the contrary, is not far from the commencement. The sudden increase in the number of the admissions in the month of October is again followed in November by a diminution in the dismissals, which is again raised in the succeeding month. Finally, we may have been struck with the elevated place which the months of September and October occupy in the scale of dismissals with regard to the low proportion of the admissions in the preceeding months. This can scarcely be attributed to a slow rebound of the increase of January, nor to that of the spring exhausted by the numerous dismissals in

the month of August; and we must, therefore, probably seek the causes in the simultaneous dismissals of a great number of the patients admitted in the months of July and August. The variations of the other months are not sufficiently marked to allow of any useful analogous observations.

These different results, hitherto without direct application, and the interest of which is rather future than present, tend only to shew how, and according to what rules, the variations in the number of the dismissals may bear upon that of admissions.

To draw positive instruction relative to the length and importance of diseases, oscillations more sudden and more marked, are required in the numbers, as happens, for example, in epidemics. However, the indications presented above are not absolutely without signification. If this element of the problem could be represented up to a certain point, by the proportional number of the discharged in a given space of time, it follows, that the smaller this number is the longer would have been the duration of the diseases, to which it refers. For example, 600 sick being admitted in the month of January; if only 150 of these go out the following month, or one in four, it would be right to conclude that the existing diseases were in general longer in duration than if the proportion of dismissals were one in two. Now, in consulting the foregoing calendar, founded precisely on these proportions, and following their decreasing gradation, we shall see that after the increase of January, the following month gives the lowest proportion of dismissals, and that of March a proportion still low; that the three months which have given the greatest number of admissions, April, May, and June, have transmitted from one to the other a large proportion of dismissals; that the last of these months has left, on the contrary, to the following month, but a very small number, and part of these to be transmitted to the month of August; that the admissions of August and of July have not been sensibly felt until the dismissals of September and of October, and the increase of October upon the dismissals of December. From this it might be inferred that the reigning diseases of January were in general of longer duration than those of the early spring; and these last shorter than those of the end of spring, and of the rest of the year. This inference seems to us sufficiently conformed to observation, but we shall content ourselves for the present with pointing it out, not forgetting that the number of the deaths ought in its turn to influence the number of the discharged, which we shall now endeavour to verify.

(To be continued.)

TABLE OF DISEASES TREATED BETWEEN THE 24TH OF FEBRUARY, 1843, AND THE 31st OF JANUARY, 1846.

By GEORGE FIFE, M.D., Newcastle-upon-Tyne, late Physician to the Sunderland and Bishop-Wearmouth Infirmary.

(Continued from page 227.)

In the whole range of medicine no diseases are more deserving of the attention of the physician than those met with in the class of eruptive fevers, not only in consequence of their primary importance, but still

* It will be remarked, that slight differences in the proportions are here of great value, from the large number from which they are drawn.

more from the effects which they leave behind them, and which exert so marked and, frequently, serious an influence over the life and health of the individual who has suffered from them, and to guard against which the most anxious care and most judicious treatment are required. To none of this class of diseases does this remark apply with more force or truth than to measles and scarlatina, the sequelæ or consequences of which are now to be considered.

One characteristic of these and other exanthematous diseases to be scrupulously kept in mind is, that however useful medicine and therapeutic measures may be in mitigating the severity of these diseases, they have a regular and prescribed course to run, and, consequently, that any cause tending to interrupt its progress, must be, and in fact always is, attended with considerable risk to the patient. The eruption may be regarded as a means adopted by nature to relieve the system from part of the morbid influence under which it labours, and as a symptom of a disease, rather than as the disease itself. This view seems to acquire support from the well-known effects which attend, either its partial development or its retrocession, the latter seldom occurring without the most serious consequences following it, and also from the constitutional disturbance which precedes its appearance by such a length of time, as to forbid the idea of the fever being a mere concomitant of the eruption.

To enter into any extended consideration of the primary diseases, or their treatment, is foreign to the object of these papers, as well as unnecessary, as the fullest information on these subjects is to be met with in every systematic work on medicine. I shall content myself then, with at present simply noticing a few circumstances connected with the invasion of these diseases, which are not of common occurrence, but which have attracted my attention, more especially during an epidemic of measles which prevailed in Edinburgh, when I was connected with the Northern Public Dispensary in that city, and which from the frequency with which the disease was ushered in by it, enabled me in many cases to predict what was to follow, even before any symptoms of the primary fever had appeared. I allude to convulsions, which in many instances took place before the slightest deviation from the most perfect health was apparent. Had this been limited to infants and very young children in whom dentition was yet incomplete, it might have been passed over as a mere consequence of the irritable state of the nervous system, so generally present during such period: but this was not the case, as these convulsive attacks occurred in several cases, ranging from the seventh to the fifteenth and eighteenth year. In some of these cases my assistance was hurriedly sought, in consequence of the patients "having had a fit." This was generally followed almost immediately by the febrile disorder, to which the eruption succeeded in due course. It is worthy of remark, that such anomalous cases were not sensibly more severe, or dangerous in their course, than those which commenced in the usual manner, nor was the sensorium in any of them affected to an unusual degree in their after progress. In this respect, the accession of measles bore a very striking resemblance to that of the influenza, which prevailed in 1837 in this town, several cases being ushered in by sudden and urgent attacks on the

cerebro-spinal system, before any other symptoms existed indicative of the real nature of the disorder, but which very soon became well marked. Two out of many cases illustrative of this circumstance, were sent by me at the time to the *Medical Gazette*.

In regard to the treatment of measles, I consider that except where local symptoms exist in an aggravated form, no active measures are either necessary or useful, although very often decidedly injurious, by preventing the full and free development of the eruption. Many facts have presented themselves to my notice, demonstrative of the mischief resulting, both from active depletion and the employment of strong purgatives, with the view of subduing the fever prior to the appearance of the eruption, the real nature of the disease not being even suspected, the extent to which medicine should in ordinary cases be carried, prior to the subsidence of the eruption, being merely to that of unloading the bowels, and securing by gentle diaphoretics, a moderate determination to the skin, the cough, when very troublesome, being mitigated by mild expectorants with hyoscyamus. Such is the plan which I have pursued for nineteen years, during which period my practice in the diseases of childhood has been very considerable, and in which I cannot call to mind a single case wherein measles proved directly fatal. From my own experience, therefore, I conclude that measles is not primarily or essentially a disease attended with much danger to life, but when its sequelæ are considered, the case is very materially altered, and in my belief very few diseases are ultimately more fatal. To the consideration of these I now proceed.

The most common effects of measles on the system, and which from their frequent occurrence, are very properly termed the sequelæ of the disease, are affections of the chest and abdominal organs, especially the mesenteric glands, which last in the strumous diathesis, when not duly attended to, constantly goes on to what is called *tabes mesenterica*. From the prominent degree in which the respiratory system is affected in the primary disease, and the irritation thereby induced, any previous or inherent tendency to disease of the lungs is, as might be expected, constantly developed after the subsidence of the eruptive disorder. This remark is particularly applicable to the manifestation of phthisical symptoms, which so often supervene on measles. In these cases it is probable that tubercles had previously existed in the lungs, although in an isolated state, and therefore not the object of attention. When, however, the general and local irritation of measles comes into operation, and in which the lungs always participate, it is probable that, not only the tubercles which lay dormant, are called into an active state, but also that fresh tubercular matter is deposited, which, with that previously existing, is rapidly matured, and in too many instances speedily fatal. Independent of the previous existence of tubercles in the lungs, there is no doubt that, after such a disease, and the comparatively impaired condition of the vital powers of the system which it inevitably leaves behind it, tubercular matter may be deposited in such quantity as very soon to go into the state of aggregation and softening. Whenever, therefore, after the convalescence from measles, cough continues, and especially when the

person complains of "shortness of breathing," cause exists for anxiety, and wherever it is practicable change of air should be advised. The nature of such change must depend on the general constitution of the patient, and the real progress which the disease may have made. Where the supposition exists that deposition of tubercles is going on, and this is connected with the scrofulous diathesis, but where no inflammatory tendency has manifested itself, a pure, dry, and bracing air should be preferred; such change, aided by appropriate medicinal and dietetic measures, will, when promptly made, very often arrest the further progress of the disease. When, however, there is reason to believe that the tubercles have made more advance, the cough being attended with expectoration, and this of a suspicious character, the flesh and strength reduced, and the patient liable to frequent inflammatory attacks in the chest, the selection must be diametrically opposite, a warm and humid air being best adapted to the prevention or mitigation of such inflammatory action.

On the medicinal treatment of these states it seems quite superfluous to enter; but one question of no inconsiderable importance exists as to the expediency of mercurial treatment in the incipient stages of tubercular disease of the lungs. Without at all presuming to decide such question, I may be permitted to express my *doubt* as to the propriety of carrying the mercurial treatment to such an extent as to obtain anything bordering on its specific action on the system; as however desirable it may be to change by alterative remedies the tendency to deposition of tubercles, there are circumstances inseparable from the action of mercury to which I cannot overcome my objection. These are, first, its acknowledged primary excitant action, which is certainly followed by depression of the powers of the system; and, secondly, its liability to induce that cachectic state in which tubercular disease so frequently originates, and with which is generally associated a high degree of irritability, by which the system is rendered excessively obnoxious to those inflammatory attacks, against which it is so very desirable to protect the patient.

Objectionable as I consider the employment of mercury with the view of producing its specific action on the system, these remarks are not to be considered as condemnatory of its exhibition as an alterative, occasionally given to correct any error in the secretions; so far from this being my intention, experience has convinced me that when so administered it is not only most beneficial and speedy in improving these, but it also renders the system more amenable to the influence of other medicines, of which, in these cases, the iodide of potassium claims the first place. This remedy may, at first be given alone for a time, and may subsequently be used in conjunction with the preparations of iron, or with other tonic bitters. From this plan I have derived the very best effects in many cases, where the cachectic condition was well marked, and where there was too much reason to apprehend the existence of serious mischief, both in the chest and abdomen. In those cases attended with some excitement of the circulatory system, any unpleasant action of these medicines has been effectually repressed by the addition of a few drops of the tincture of digitalis.

These measures, aided by a carefully regulated diet, and warm or cold bathing, according to the indications of individual cases, with strict attention to clothing and exercise, have generally succeeded in arresting the further development of the disease, except where its progress was such as to forbid the hope of real or permanent advantage from any plan that could be adopted.

In those cases where the mesenteric glands were implicated, the secretions, when defective, were improved by the combination of the hydrargyrum cum creta, with ipecacuanha, or antimonials; iodide of potassium, with or without iron; the warm sea-water bath; and friction over the abdomen, and along the course of the spine, with various stimulant embrocations, one of the most useful consisting in a combination of tincture of iodine with turpentine, and a due proportion of lard or oil. Flannel should, in these cases, be worn next to the skin, and where previously in use, a broad belt, applied with moderate firmness around the body may be very advantageously added.

The remarks made on the sequelæ of measles will, with some modification, apply to those resulting from scarlatina, but in the latter the chest is less frequently affected, the most common effects being deafness, and dropsical effusion, although from the general excitement of the system any latent morbid tendency is liable to be called into a state of activity. The deafness which so frequently follows this very dangerous and often intractable disorder, may depend on various and very opposite causes, one of which seems to be the obliteration of the Eustachian tube, consequent on the extension of the inflammation of the throat; another, the destruction or disorganization of the organ of hearing, by inflammation and suppuration, which may or not be attended with death and exfoliation of the beautiful and delicate bony structure on which the sense of hearing depends. The first may subside spontaneously, after the lapse of some time, but the hearing is generally and permanently impaired; whilst, in the latter case, the sense is irrecoverably lost. Instances innumerable might be cited, illustrative of both these causes of deafness, but they are unfortunately too common to render any appeal to facts necessary.

In regard to the treatment of these cases, although they come more strictly within the province of surgery, I believe but little can be done. In some cases, where the first cause seemed to be the source of the evil, I have derived considerable benefit from the employment of stimulant gargles, and a *succession* of blisters applied behind the ear. In the latter no measures have appeared to be productive of any advantage, although very bad effects have, within my knowledge, followed the drying up of the purulent discharge by means of various applications employed for the purpose, a practice which cannot be too much deprecated.

The mesenteric glands in this disease are very frequently affected on its subsidence, though by no means so frequently as after measles. The most common and serious consequence of scarlatina, is the dropsy which may occur either immediately on the cessation of the febrile and eruptive disease, or may take place after some time has elapsed, either as the consequence of exposure to cold, improper diet, &c.,

or it may arise spontaneously, without any evident or sufficient cause. Some years ago very opposite opinions were entertained as to the real cause and nature of the dropsical effusion consequent on scarlatina, some very eminent men contending for its inflammatory character, others regarding it in the opposite light, and attributing it to debility. That both opinions were tenable to a certain extent, experience has long ago convinced me, and that treatment must be modified according to the character of the case is no less certain. So far, however, as I have been personally called upon to treat the disease, the latter cause has been decidedly most prevalent, as in no case have I ever deemed active depletion necessary, nor have I ever had reason to regret the omission of such—when requisite—very valuable means. In all the cases which have occurred in my practice, purgatives, diuretics, tonics, the warm bath, friction, and rigid attention to diet, with careful protection against cold and damp, have proved fully adequate to a complete and permanent cure. In conclusion I would observe, that the less the primary diseases are interfered with by medical treatment the better.

Newcastle-on-Tyne, May 23, 1846.

(To be continued.)

CASE OF COMPOUND FRACTURE AT THE ELBOW-JOINT.

TO THE EDITOR OF THE PROVINCIAL MEDICAL AND SURGICAL JOURNAL.

SIR,

If you think the following case is worth insertion, inasmuch as the relation of many such cases might expose the consequences of casualties occurring during the treatment of them, you will have the goodness to give it a place in your Journal.

I am, Sir,

Yours very respectfully,

W. ALLISON.

Nov. 14th, 1845. A man, aged 65, of a rheumatic habit, who had lately recovered from broken ribs, had a compound fracture at the elbow-joint, from the wheels of an empty waggon having passed over the arm upon a hard road. A hole in the skin, over the front and upper part of the external condyle of the left humerus, admitted the finger very readily, by which pieces of bone were felt in the joint, detached from the humerus, though not from the supinator and extensor muscles of the forearm. There had been free venous hæmorrhage.

Considering the man's age favourable,—that he was neither so young as to make violent inflammatory action probable, nor so old as to be deficient in necessary vigour, I observed to him, "that his arm might be saved, but that as some of his fingers would be permanently contracted, and as he was a man of property, (not dependent upon labour,) it would be better, under all circumstances, to remove the limb after he had been a night in his own bed; more especially as his natural strength of constitution had been reduced by the accident from which he had but just then recovered." To which he replied, "If it be possible to save the limb, I should prefer it; I don't mind how useless it remains."

The opening in the skin was enlarged two inches, to admit of the separation, by a bistoury, of tendons arising from the pieces of broken bone. The removal of the bits of bone produced a recurrence of the hæmorrhage. Three sutures were used. A piece of lint soaked with blood was placed over the wound, and over that, lint soaked in the compound tincture of benzoin, to seal it up air tight. A roller was applied over the whole.

The man, having his arm placed in a sling, was taken home in a chaise, from a small cottage by the road, a distance of five miles. It may be here remarked, that the circumstances of his being in a very small cottage with a family of children, and being faint from loss of blood, rendered *immediate* amputation undesirable. On the following day the roller had become soaked with blood. Cold wetted linen was then applied over the whole arm, during some days. Having no fire-place in his cold bed-room, (nor in the house, except one in a small kitchen,) he "took cold" with getting up to his night chair, whilst using the wetted linen, and became rheumatic; still his elbow-joint and his constitution remained quiet until he took a second cold, about the 11th of December.

December 6th, (the twenty-first day from the accident.) The whole of the lint, &c., were taken off the arm. Two sutures were loose from ulceration, and the third was removed. The wound had entirely healed.

11th, (the coldest part of the winter.) The man became feverish, with very acute rheumatic pains, from fresh cold; the joint became inflamed, and suppuration ensued.

The skin gave way on the 17th, and from the 22nd the wound began to fill up by granulations. After that time the limb, during six or eight weeks, gradually recovered its natural size, and May 5th, (upwards of six months after the accident, and nearly five from the suppuration in the joint,) the wound had healed, at which time the man was in a very good state of health, but the joint is ankylosed to but a trifling extent, the forearm cannot be borne out of a sling, and the fingers are almost useless. Next winter the limb may be frequently the seat of rheumatism.

Remarks.—If the arm had been amputated on the day after the accident, the man would have incurred considerably less expense, and would not have been so helpless in dressing as he now is; but he would always have thought that the arm might have been saved, and that it would have been very useful to him. It is probable, that if he had had a fire in his bedroom, the process of reparation would have been completed without suppuration in the joint. He is quite satisfied with his recovery, and content with the present state of the limb.

PROVINCIAL

Medical & Surgical Journal.

WEDNESDAY, JUNE 3, 1846.

So large a number of the members of the Provincial Medical and Surgical Association are to be found among the supporters of the Sydenham Society, that the proceedings of the latter body cannot but be a subject of considerable interest to the Association.