cines should be given according to circumstances only, and not in a general way.

In these observations, I have confined myself to the consideration of the typhus fever of these islands; at the same time it will strike my experienced auditors, that between the epidemic yellow fever of warm climates, and typhus fever of this country, there is a very considerable similarity; and I am of opinion with Sir James McGregor, and other eminent medical men, who have had opportunities of witnessing genuine cases of plague, that there is a most close resemblance between that disease and severely marked cases of typhus fever. Dr. Tweedie justly remarks, that if swelling and suppuration of the parotid, of the inguinal or of other glands, and the occurrence of carbuncles, are to be regarded as pathognomic characters of plague, he has met with many such cases in the Fever Hospital. The difference appears to consist chiefly in the uniformity of the swellings in the plague, and the rapidity with which the disease runs its course. This may depend, in some degree, on the climate in which the plague is engendered; as we observe how rapidly fatal the cholera morbus of tropical climates is, compared with the epidemic cholera of this country. I need not point out to you the origin of these swellings, as you will at once refer them to the increased action of the lymphatics in a diseased system, which, under these circumstances, have more than their usual office to perform, and in this case kindly, if I may use the expression, supply the place of the lacteals of the intestines, though it must be acknowledged they are very indifferent substitutes, as all cases of typhus fever will demonstrate.

In conclusion, it will readily be observed, that the details, as to the method of cure, which I have found it needful to enter upon, refer to cases in which the medical practitioner is called upon to visit patients in the advanced stages of the disease; but if my experience does not deceive me, medical men who are called in early to attend typhus cases, should they understand the true proximate cause of this disease, as now for the first time pointed out, will be able (except when organic disease of the brain, lungs, or liver prevails) to effect cures as readily as in intermittent fever, or syphilis.

Management and Diseases of Infants in India. By FRED. CORBYN, M.R.C.S.

(Concluded from page 762.)

RECURRING to this work, for the purpose of making some further extracts from it, we find some judicious directions on the wash-

ing and dressing of infants. But useful as these may be to an inexperienced young lady, in the back provinces of Hindustan it would be impertinent to introduce them here.

The first month of an infant may be called a life of sleep; the faculty of attention is dormant, so that amidst the loudest noise it sleeps soundly, sometimes for hours together. This is to be encouraged; for nature is *gradually* bringing into operation the faculties of the external senses, and developing the other functions of its miniature frame.

"Infants should not be confined in a close room, but exposed in one freely filled with air. The period is not long gone by, when the exclusion of air, by shutting up every door and window of a house, was deemed indispensable to preserve health; but now it is too well established to need any forcible argument from me, to show that air and a free circulation of it, is a certain medium of promoting health; and that the exclusion of this pabulum of life is replete with cause of sickness. In hot weather, children ought to sleep and live under a large punkah (fan) night and day: small hand punkahs are decidedly dangerous, as they only cool one part of the body, their motion not being well regulated, for sometimes the servants pull them quickly and then slowly; this is not the case with a large punkah, it is one regular swing, and should be used the second day after the birth of a child. Many will object against this advice, but I beg to observe, that I am speaking from experience. Infants will not sleep when it is excessively warm, their temperature being warmer than that of adults; I therefore consider a large punkah, in the hot weather, to be indispensable, to guard against irritability and disease. It is to be understood, that the motion of the punkah, at this early period, should be exceedingly gentle, and be progressively increased, until the baneful effects of oppressive heat are thereby prevented. We must next avoid damp rooms, or a foggy atmosphere, as many of the diseases of infants arise from moisture; and I call the attention of mothers to watch the child's *ayah*, to look at the infant frequently, to ascertain if the bed be wet, as native servants, unless narrowly looked after, will allow a child to sleep all night in a wet bed: such neglect is decidedly prejudicial. The mother doing this herself in the night time, however, has its objections, as she, being a nurse, ought to obtain all the sleep she can at that period; the other parent will, doubtless, see the expediency of performing this office, and occasionally see that the nature

servants do their duty. This country is most unfortunate for female servants; besides being extremely negligent, they sleep, generally, with their heads bound all over, so that they seldom hear when the infant awakes, and the poor little babe will be kicking and crying for help without avail, unless one of the parents send or afford assistance.

"In the hot winds, in the province of Hindustan, it is not unusual for nurses to sit in the direction of a line of doors, through which powerful currents of air from the tatties are passing. This must be forbidden, the centre of the room being quite cool enough, in which situation there is no fear of the child experiencing the effects which result from drafts of wind. It may be important to state when a child ought to leave the nursery after birth. I recommend the first exposure to be made in the verandah, on the third day; and after a lapse of seven or eight, the infant may be safely taken into the open air, but conveyed to those spots only where the country is open and the air pure, being unimpregnated with vapours ascending from stagnant tanks or smoky huts; the effect of such fumes must be evidently deleterious. The spot most to be desired is an open garden, distant from dusty roads. I am decidedly averse to the system of bullock carts which are in ordinary use. I prefer the arms of a servant, and if the child is old enough, its own running about or walking. The former system cramps children's limbs; the latter gives impetus to the circulation of the blood, and strengthens them. The mode by which European nurses carry children is, in my opinion, objectionable, from a similar effect of cramping the limbs, whereas the stride across the hips in use by the natives, not only extends the limbs, but throws back the chest and shoulders, and is both an easy position for the nurse, as well as for the child. It will be expedient to give strict injunctions to the servants, however, never to seat the child on the cold ground; it is their prevailing custom so to do, by which the infant is subject not only to the bites of venomous reptiles, but to bowel disease."

The author recommends the child to be suckled eight times in the twenty-four hours, during the first six months.

"Nurses, heedless of the fact that it takes a certain time for milk to accumulate, fly to the child immediately after the breasts have been drained, by which, instead of milk, the poor infant only gets a little wind and water. To explain the cause, however, it will be necessary to mention, that the food which nurses take has first to undergo the course of assimilation in the stomach; then again in the curvature proceeding from that

viscus, whence it is taken up in the blood; thence by the glands, and finally formed into milk. This process requires time, and if the proper period is allowed, the milk becomes rich, pure, and nourishing; but the reverse of this may be expected, if the breasts are drawn previously to the completion of that process. As milk requires a certain churning before it can be made into butter, so do the functions of secretion need a due proportion of time to form the milk. I might, probably, be more explicit, by supposing we were to be drawing the breasts every half hour; in that case, from the limitation given to the functions alluded to, they would lose the power of secreting, and become dry, which is a very common case.

"It will be advisable to call the attention of mothers to the insuperable desire some infants have to sleep, and it appears to be a degree of somnolency peculiar to India; I believe it to arise ordinarily from the excess of heat. The effect, however, of too much sleep on the infant constitution, when permitted after it has attained its sixth month, is unequivocally prejudicial; it diminishes vital energy, and induces weight and torpor in the head. That sleep, however, in a healthy state, which spontaneously occurs, ought never to be more in infancy than twice in the course of every diurnal revolution of the sun. The hours most advisable are from 10 A.M. to 12, and then from 7 or 8 P.M. until daylight on the following morning. The effect of this limitation will be both to renew the vital energy which has been exhausted during the day, and to assist nutrition. As the child advances, however, into its third year, once in the 24 hours will be sufficient, from 8 P.M. to daylight; and thus, alternate repose during the night, and active exercise and playfulness during the day, will lead to a habit which, when once acquired, will continue immutable through life. When six months old, it should have much exercise, such as being well nursed, which gives an impetus to the circulation, an exercise which adds tone to the stomach, increases the digestive powers, strengthens the limbs, tends to enliven the disposition, and to prevent a heavy, dull, sleepy habit. Some native servants lose all power over themselves from intensity of drowsiness, it is necessary, therefore, to warn parents of the danger of having dull and sleepy *ayahs* for their children. I was informed of an instance of a lady in this country who lost a fine child from the neglect of such a servant, who, having taken the infant in her arms to put it to sleep by walking up and down the room, during the middle of the night, a degree of somnolency affected her, during which the child fell from her, and was killed by the fall."

Mr. Corbyn recommends, that the child be weaned in the ninth month, and that feeding should therefore commence in the seventh.

In the second part, the author treats of the pathology of infantile disease, and quotes largely from other authors. He considers difficult dentition as the cause of fever, convulsion, purging, eruption, water in the head, and marasmus, and accounts for it by supposing, that the irritation of the gums occasions the secretion of a peccant saliva.

“ It will, however, be proved by the following arguments, that a corruption and acrimony of the saliva, almost similar to that in the canine madness, is the principal cause from which all the most dangerous symptoms of dentition are to be derived. Many symptoms of dentition admit of a more natural and easier explanation from this saliva, than from the irritation only, viz. the cough, laborious breathing, the collection of pituitous matter in the breast, suffocation, &c.; swallowing it causes vomiting and diarrhoea. When it possesses a high degree of acrimony, or when its excretion is by any means obstructed, it produces, in sensible and irritable constitutions, hydrophobia, lock jaw, epileptic fits, &c. The acrimony being imparted to the humours, gives rise to fevers, and exanthemata or inflammatory eruption. Inflammatory and other affections of the genitals are owing to the acrid saliva having thrown itself upon the urinary system. A complication of dysentery and dentition is consequently very dangerous, because the bowels are thus likely to be doubly affected. Dentition has been observed to be slight and easy whenever the salivation is considerable, or salival humours evacuated by other emunctories of the body. ‘ There is a great similarity between the symptoms of difficult dentition and those of real hydrophobia, apparent from the impediment in swallowing and other spasmodic affections. Several children, who died of difficult dentition, had bloody stools, attended with a tenesmus. Upon dissecting the body, erosions and inflammations were found in the throat, stomach, and intestines, which were most probably caused by the acrid saliva. Something similar has been noticed in the stomach of persons who have died of hydrophobia.’ The intelligent Dr. Brandies, of Brunswick, advances his opinion of the nature and origin of the dangerous symptoms sometimes observable at the time of first dentition, in his book on *Metastases*, 1798. Although he agrees with Armstrong and Hecker, that they are not to be derived only from the irritation of the nerves of the teeth, yet he rejects their theories, and rather

thinks that a suppression of salival secretion has the principal share in producing those symptoms. He observes, that the secretion of saliva is much increased by the topical irritation in the mouth, which becomes very necessary to the constitution of the child, when, in his opinion, the topical irritation is too vehement, in a difficult dentition, and that it extends to the salival glands, and causes a suppression of the secretion of saliva. It may be observed, according to this author, therefore, that the mouth and lips become dry and cold in bad cases; meanwhile there is a great degree of febrile heat in other parts of the body, which is a diagnostic sign of this dangerous disease. He is of opinion, that when the suppressed action of the salival glands is replaced by that of the pancreas, a purging comes on, which generally continues as long as the difficult dentition is accompanied by those symptoms, which contribute very much to diminish the violence of them, and of the concomitant fever; but, on the contrary, when this does not take place, nervous symptoms, convulsions, and a nervous fever arise, which, having a great similarity with water in the head, is very well described by Armstrong, under the name of hectic fever.”

The topical signs of difficult dentition are, tumefaction, hardness, and redness of the gums, and pyalism. The general symptoms, circumscribed redness of the cheeks, eruptions on the face and scalp, and the skin generally; looseness, gripings, stools, green or pale, or of a leaden-blue colour, sometimes mucous, often thick and pasty; watchings, startings in the sleep, and spasms of particular parts; a diminution or increased secretion of the urine, sometimes of a milky colour, at others depositing a brown powder; a discharge of matter, with pain in making water; frequent shrieking, and, in certain habits, a swelling of the feet and hands. These symptoms are often followed by cough, difficult breathing, fits, fever, scrofula, and marasmus, and sometimes by hydrocephalus.

“ The process of teething, however, in the majority of children, is as follows: it commences usually about the fifth, sixth, and seventh month; the commencement is in the two first under teeth. The first sign is swelling of the gums, and little white specks about the size of a pin's head. In seven days a cut through the gums is observed; and next, if the flat of the end of the finger be moved gently along the gums, the little sharp edges will be felt. In fifteen days they generally come completely through. From fifteen to twenty days, after the two

lower, the two first upper teeth begin to show themselves in the same manner. In a month subsequent to the appearance of the four teeth, two more contiguous to the upper follow; and in another month, or six weeks, two corresponding under ones.—After this there is a considerable lapse of time before others appear, sometimes two or three months; then the four first double teeth, that is to say, the contiguous upper and under teeth on each side, appear together; making twelve. These are sometimes very tedious in making their way through. Two or three months subsequent to this last event, the eye-teeth, the most difficult of all, make their appearance, making in the whole sixteen. Some children cut eight double teeth before the eye-teeth, making sixteen. When a child is two years old, he cuts four more double teeth, in some making twenty.”

Dr. Brandies explains the occurrence of these concomitant or consequent affections, by his theorem of metastasis; “That when certain actions in any organ, or system of organs, cease, or are by any means diminished, they must be replaced by another action in another organ, or system of organs of the body, dependent on the former action. The first may be called the original, the second the vicegerent action.” With due deference to the worthy Brunswicker, we hold, that the various ailments attendant on dentition may be more rationally accounted for, by the increased susceptibility of the nervous system. The constant irritation excited in so sensitive a part as the mouth, affects the sensorium, and, through that, the entire frame.

Many of the diseases of infants in India do not differ in character from those occurring in Europe; it would, therefore, be a work of supererogation to quote such parts as relate to them. We shall set before our readers such extracts only, as may tend to illustrate the peculiarities of Indian disorders. On impeded perspiration, we have the following pertinent remarks:—

“At all times there is a great quantity of excretion passed off by the skin, which gives perspiration that unpleasant smell which accompanies it. Sanctorius, an Italian physician, who indefatigably passed a great many years in a series of statical experiments, demonstrated long ago, what has been confirmed by later observations, that the quantity of vapour exhaled from the skin and from the surface of the lungs, amounts nearly to five-eighths of the aliment we take in; so that,

in the warm climate of Italy, if a person eat and drink the quantity of eight pounds in the course of the day, five pounds of it will pass off by insensible perspiration, while three pounds only will be evacuated by stool, urine, &c. But in the countries where the degree of cold is greater than in Italy, the quantity of perspired matter is less. In some of the more northern climates, it is found not to be equal to the discharge by urine. The perspirable matter bears great analogy to the urine; for when either of these secretions is increased in quantity, the other is diminished, so that they who perspire the least, usually pass the greatest quantity of urine, and *vice versa*. Another grand effect induced by this discharge from the skin is to carry off the superabundant heat. When the skin is moist with this fluid, it is always cool; when there is no moisture, it is hot; so that all the heat of the body going through this moist skin, refreshes the whole constitution; this principle is exemplified by a tattee in India. A hot wind blowing through wet grass occasions a cool atmosphere; it is exemplified in cooling wine and water: wet a cloth, put it over a bottle in a draft of wind, and the wind blowing over the wet cloth of the bottle cools the liquor. It is exemplified by spirits of ether: drop this upon the skin, and a rapid evaporation takes place, and produces excessive cold. It is exemplified in making ice in India: water is placed in shallow pans, and the wind blowing through grass over the water, produces the evaporation and freezes the water. I can explain it, however, I think, more clearly, by stating the ignorance of an apothecary, who, being called to see a lady with violent headache, and having heard that applying ether to the head was an effectual remedy, wetted a cloth with that spirit, and retained it, with the flat of his hand, over the temples; this, instead of producing cold, produced excessive heat, because the evaporation was prevented by the hand. The pain of the head increased to almost an insufferable degree, and the lady would have died from inflammation of the brain, had not other medical assistance opportunely arrived, who, throwing off the cloths, dropped the ether on the temples, which producing excessive cold from the rapid evaporation, the lady speedily recovered. This instance shows, that the ignorance of applying remedies is fraught with the most imminent danger; but it especially exemplifies the process and effect of perspiration on the skin; that as long as it freely exhales, evaporation takes place, and cold is produced; but if any thing shuts up the pores and retards the evaporation, heat is induced.

“Thus, having described the circulation and effect of perspiration, we deduce the

following facts, viz.,—That in health, the large trunks of the arteries are freed from superabundance by a free discharge from the exhalents; that the arteries are stimulated to due action by the nerves; that excessive heat is prevented when the foregoing functions are not impeded; and that sudden death, from the obstruction of alvine and urinal discharges, is precluded; all depending on a free perspiration, and all liable to be produced when that is checked. The first effect, therefore, of a check of perspiration is, that the arteries in their large vessels become overloaded, and the bowels are distended with blood, the liver filled, and consequently the stomach and the head. The second effect is, an increased exertion on the part of the nerves to remove the load and to push the blood onward, which excites the most violent pain, and is experienced sometimes to an insufferable degree in the limbs, chest, and head, while the lungs pass off a hot and hurried breath. The third effect is, the urine becomes also hot and scanty, indicative of confined and accumulated heat. The fourth effect is, on account of the quantity of accumulation, there is no desire for replenishment, therefore no appetite. On these grounds, we also account for the depressing sensations of lassitude and fulness. The fifth effect is, that all the secretions are lessened, because there is no replenishment, therefore there is a deficiency of pancreatic juice and bile, evinced by an interruption of alvine discharges; of gastric juice, evinced by loss of appetite and sickness; of saliva, evinced by a parched, dry tongue; and of urine, by scanty discharges. Such is the serious consequence of checked perspiration; it is fortunate, however, that a complete check scarcely ever takes place. Violence of disease depends upon the degree of the deficiency of perspiration; when it is great, one of the first diseases produced is fever.”

We occasionally hear of the poetry of acting, and oftener of the poetry of painting; the following may be considered an example of the poetry of pathology.

“An infant, after attaining its seventh month, has a peculiar brilliancy in the eye, and if in health, from this period to the eighteenth month, has a delightful vividness and loveliness of countenance. In the upper provinces of India are found, especially in the cold weather, delicate, rose-coloured cheeks, and lips of fine red, while the soft whiteness of the skin combines with the whole to form a countenance exceedingly beautiful. The opening faculties of the mind, at this interesting period, appear to the delighted parents. The articulating powers begin to call the endearing names of papa and mamma. But at this

moment, like a cloud passing over the sun, and hiding his cheerful radiance, the once playful child ceases to smile through its little dimpled cheeks, to catch with its playful hands, to gaze with its lovely eyes, and to sing its cheerful, broken notes; the eyes become dim, the cheeks pale, and the hands droop; the lips become dry and parched, and the little sufferer expresses itself with a peevish moaning, calling for drink, while the skin is exceedingly hot, especially the head, the palms of the hands, and soles of the feet. In many instances, there exists an accumulation of phlegm, which invariably accompanies thirst. This phlegm, rising in the throat, excites a cough, and the cough producing much irritability, excites difficulty in breathing. These symptoms lead the parents to conclude that the child has got a cold, they, therefore, give a little antimonial wine, or James’s powder, in the hope that all will soon be well again. But the excitement of the fever, being unknown to the parents, goes on burning like a little fire put to a great quantity of fuel, until (unless the fire be removed) the whole is lighted up and consumed, for the thirst increases, and instead of moaning, the child screams in great pain, the skin becomes much hotter, and the hands are constantly directed to the head. The white part of the eyes, at this moment, becomes inflamed, and the whole features partake of a deep flush; the respiration is deep and difficult, because it is rapid. The head is often changed from side to side, and the child turns quickly from its back to its stomach, rises up hastily, and as suddenly lies down, in one continued restless change of position. The urine is pale; continued efforts made to evacuate it are in vain, as it only drops in small quantities; the little limbs draw towards the stomach, and the infant coils up; the pulse is full, feeling as if the caliber of the artery could hold no more. I must here digress to remark, that no dependence is to be put on the number of times the pulse beats in a minute in a child, because even in the finest health an infant’s pulse is so rapid, that it is often impossible to count the number of pulsations in a minute. The skin is perfectly dry, apparently cracked, and scurfy; the bowels bound, and the stomach hard and large. In this state symptoms increase and terminate in convulsions.”

“In convulsions, the iris loses its sensibility, the pupil becomes expanded, and the hands are firmly clenched.”

“In many cases convulsion commences in partial squinting; sometimes both eyes will be looking, as it were, in quite opposite directions. It is not unusual that one eye only is fixed; it occurs in rare cases,

however, that the whole body is stiff; in other cases, the limbs merely are contracted; in many, the teeth are shut, and firmly fixed, the whole countenance being distorted. But the accession of convulsion is generally known by the eyes becoming fixed, a continued struggling of the limbs in rapid succession, with such an energy and power of the muscles, that it is impossible often to hold the child in the arms; indeed it requires great force to keep the poor little sufferer in its bed; the countenance becomes much distorted, and a discharge of saliva from the mouth generally terminates the awful paroxysm. These convulsions return sometimes every five or ten minutes, or every half hour, or twice a day, or daily, according to the violence of the fever.

“It will be found an invariable symptom, in all cases of convulsions, that the forehead is burning, as well as the palms of the hands, the breast, and the soles of the feet. I shall here add the sentiments of Mr. Booth, a late popular writer on convulsions of children, who gives the following sensible observations why children are more susceptible of convulsions than adults:—‘The great disposition of infants to nervous affections is not to be wondered at,’ observes this author, ‘when we consider that the habit of bearing either external or internal impressions is yet to be acquired. Every stimulus acts in an inverse ratio to the frequency of its application; and, until the frail mind and body of the infant are accustomed by habit to have their powers acted upon with impunity, the most hazardous susceptibility must necessarily exist. The muscles, during infancy, are pale, soft, and fragile; their contractions are quick, frequent, and feeble; and the external surface of the body is endowed with a very high degree of sensibility, in consequence of the nerves being covered only with a very fine thin cuticle. Hence, from very slight impressions arise very powerful effects. The circulation of the blood is very rapid; the arterial pulsations nearly double those of the adult; the capillary circulation is also infinitely more active; the lymphatic system exerts a more powerful influence upon the general economy of the infant than upon the adult. The muscular fibres, as well as the skin, is highly sensitive; the nerves are large in proportion to the size of the body; they resemble medullary pulps. Both the cerebral and ganglionic nerves are much more strongly developed in relation to the body than at any other period of life; the brain is large, and the nerves which proceed from it are of a very considerable size. As we advance in years, and the muscular fibres become firmer, our susceptibility to external impressions is consequently diminished.

Hence it is, that in proportion as we advance in years, convulsions are less likely to take place; they sometimes occur during the period of youth. In the adult they are rare, and they scarcely ever happen in old age. The sensations of a child are quick but transient. When any reaction takes place in the system, it is powerful and sudden, and coincides with the general mobility—motion, indeed, is the language of an infant.’”

The account of cutaneous diseases is concise, but we have not room for it. The section on hydrocephalus is chiefly derived from the works of Dr. Nicholl, Mr. North, and M. Magendie, and consequently contain nothing that is not familiarly known to the public. Mr. C. treats fully of febres and phlegmasia, and dwells particularly on the exanthemata, but our space will not permit further extracts; there is also a comprehensive summary of all that has ever been published on worm affections. His treatment of diseases in general, does not materially differ from that adopted in Europe.

In conclusion we have to observe of the author that he is an industrious man, has read much, and collected together a tolerable quantum of knowledge; but he does not possess a logical head. The work is extremely ill arranged; and the reader often finds himself in a labyrinth, from which it requires some calculation to discover a passage. The discursive nature of its contents has enabled us to make so many extracts.

From Mr. Corbyn's testimony, we regret to find that a scarcity of medical men exists in our Indian provinces, an evil which is oftentimes attended with the most calamitous consequences. This arises from the exclusive policy of the Company's government, which prevents all, except such as hold official appointments, from settling in its dominions. It is to be hoped that this oppressive system will speedily be overturned, that both the blessings of European medical skill may be conferred on the millions of our Indian fellow subjects, and a fruitful source of occupation and emolument be opened to the enterprising and intelligent members of our profession.