they had been in the first instance. The reflective mind of young Rust was excited by this remarkable coincidence, and he soon discovered that the whole secret depended on the man's employing a round needle, which never produces the same degree of irritation as the cutting needles employed by most surgeons. Further experience confirmed the truth of this fact, and led Dr. Rust to propose the following method of operating, which he has since practised with so much success himself.

Method.—The instrument used by Professor Rust is a fine, round needle, flattened a little at the point only, for the purpose of penetrating the tunics of the eye, but not broader here, or double-edged; half the blade, next the handle, is gilt, or otherwise stained, that the operator may be able to judge more accurately how far the needle penetrates into the eye. The patient's head being properly placed, and fixed by an assistant, the operator depresses the under eyelid, and having placed his needle a little in front of, and parallel to, the cornea, with the point corresponding with the centre of the cataract, he thus estimates how much of the blade must penetrate the eye before the point can reach the centre of the lens. Having well calculated this, he passes the point of his needle into the conjunctiva (in a direction which would traverse the optic nerve if continued,) about one line behind the edge of the cornea, and from half to a whole line below the transverse diameter of the eye, and sinks it into the eye until it has reached the depth calculated on after the first manoeuvre. The handle of the instrument is now directed backwards, which brings the point forwards, and makes it penetrate to the depth of half a line; the posterior surface of the capsule, and the middle of the lens, is at the back part. Having thus penetrated the lens, it remains to recline it, which Professor Rust executes by simply turning the handle of the needle, and bringing it a little back; in this way the anterior surface of the lens is directed outwards and downwards; its posterior surface inwards and upwards; its upper edge forwards, and its under one backwards. The operator now endeavours to push the depressed and reclined lens backwards and outwards, by bringing the handle of the needle forwards and a little inwards towards the nose; this done, he withdraws the instrument in the direction it has now assumed. Unless the latter precaution be taken, we run the risk of bringing the lens again forwards; to prevent which, when the operation is finished, Prof. Rust sometimes dashes cold water suddenly against the patient's face, while he himself holds the needle fixed in the direction judged most

convenient; the patient suddenly draws back his head, and in this manner withdraws the lens from the point of the needle.

The operation now described has the advantage of being extremely simple, and is seldom followed by any secondary accidents; the ciliary processes are uninjured, and as the capsule is opened, the chance of the lens being absorbed is much increased.

The operation of Dr. Rust is liable to two objections; First, that the operator cannot see what he does when once the point of the instrument is introduced. However, this is of less consequence, since the depth to which the needle penetrates can be estimated with so much accuracy. Secondly, that simple reclination of the diseased lens is never sufficient to produce absorption of that body, which must be moved to and fro in the vitreous humour. In the uniform success which attends Prof. Rust's method of operating, is to be found the best answer to this latter objection.

CONTRIBUTIONS TO THE PATHOLOGY OF THE DISEASES OF CHILDREN.

REMARKS ON CERTAIN DISEASES OF INFANTS.

By DR. P. DOEPP, *Physician in Chief to the Children's Hospital, St. Petersburg.*

Translated from the German, by PETER HENNIS GREEN, M.B., &c. &c.

ENDURCISSEMENT of the cellular tissue occurs infinitely less frequently at the Petersburg Hospital, than it does at the similar institution in Paris. During the years 1830 to 1833, in a total number of 18,000 patients, only three cases presented themselves at the former establishment, and these terminated in death within the first four days. In two of these cases, the skin was of a marbled yellow colour, and in the third, blueish. The unfortunate little patients lay constantly like so many mummies, with glazed half-open eyes, without power to move or even cry. When the children were brought to the hospital, the hardness and marble-coldness were equally spread over the whole body; hence it was impossible to say whether one part of the body, or which part of the body, had been attacked first. Examination of the bodies led to nothing very satisfactory, the only remarkable morbid appearances being an effusion of yellow-coloured fluid lymph in the two first cases, and in the third of a fluid resembling bloody

serum. In one case the quantity of the effusion was very great.

Icterus neonatorum, on the contrary, was just as frequent and innocent a disease as it is in Paris. Every ninth or tenth child brought to the hospital is affected with icterus; small children, and those born somewhat before their time, are more subject to the disease than strong, mature infants; it seldom manifests itself in the hospital; the patients are almost always, more or less, affected with it when they first come in. Hence the colouration of the skin, probably, sets in immediately after the birth, if not before. The treatment adopted here was similar to that pursued in Paris; that is to say, the children were considered as perfectly sound, were left to themselves, and in about one or two weeks the colour of the skin completely disappeared. The disease was never of itself fatal; when death occurred it was always the consequence of some co-existing lesion.

It follows that the remote cause of the disease can neither reside in the nurse who first suckles the child, being too old, as Gardien affirms; nor, as Pieper thinks, on the pressure to which the child is subjected during delivery. This latter opinion is overthrown by the fact, that the points of the child's body exposed to most pressure are never more coloured than any other; while the deep-seated parts, and organs protected from all violence, such as the eyes, &c., are often highly tinged: in many cases the colouration extends to the internal organs and fluids secreted.

Aphthæ occur still more frequently; indeed few of the new-born children in the hospital escape it; they always present themselves under the form described by Guersent and Billard as "muguet," viz., small, white points, gradually coalescing, and at length forming a white layer or coat, like coagulated milk, which lines the whole of the internal parts of the mouth, &c. Hence, when aphthæ are described in books as "vesicles," the authors, without having paid sufficient attention to the subject, probably mistook those white points for vesicles, although they have nothing vesicular in their structure. Besides, I have had occasion to observe true vesicles on the lips and tongue of children; but this is so rare a disease, and the appearances are so different from those of true aphthæ, that I consider the one as a peculiar eruptive disease, while the former seems, in most cases, to be a product of inflammation affecting the mucous membranes, as Billard and Heyfelder have previously remarked.

The mortality produced by aphthæ, in the hospital *Enfans Trouvés*, at Paris, is enormous: according to Heyfelder it amounts to five out of six cases; in St. Petersburg the disease is of a much more mild and innocent character. In but a very few

cases the concretion assumes a yellow or brownish colour, and an increased consistency; it may then extend over the whole mouth and lips, and is denominated by some writers, "gangrenous aphthæ." The term is an incorrect one, for the disease is confined exclusively to the secretions. The name of "malignant aphthæ," seems much more appropriate. I have very seldom seen this form of aphthæ in the hospital of St. Petersburg; and when we did meet with an example of it, the disease was always developed in weakly children, before their admission, and in consequence of neglect. The treatment of aphthæ, in the St. Petersburg hospital, is very simple. The child's mouth is frequently washed out with milk, or the diseased parts were cleaned with an aqueous solution of borax; the internal remedies consist in a little magnesia and rhubarb. In malignant aphthæ, camphor was administered with valerian, in a mucilaginous mixture, and these remedies were found beneficial in several severe cases. Contrary to the advice of M. Guersent, I think it absolutely necessary to separate the child from its mother for a few days.

Erysipelas infantile (*Die Rose*) is a frequent disease in our hospital, where about 300 cases present themselves every year. It appears as a primary or secondary disease; the latter is a very dangerous complication of some internal inflammation, particularly of the abdominal cavity: it is very changeable, disappearing from one part to appear at another, and seldom occupies the whole cutaneous periphery.

The primitive form is the true *erysipelas infantile*. At the commencement it is a local disease; begins commonly on the upper extremities; more rarely on the lower ones or abdomen, and then spreads rapidly over the whole body. About the end of the second week after its first appearance, the local character of the disease becomes changed; febrile symptoms now set in; the respiration is short and quick; the thirst severe; and the transition to inflammation of some internal organ, or to suppuration, is imminent. In the first case the child almost always dies; in the second, there is no very great danger, unless the suppuration be extensive, and deep-seated. Various parts of the body are commonly the seat of small abscesses. These abscesses are chiefly formed on the extremities, and bring the disease to a fortunate termination, unless, indeed, they reappear, a case which has frequently occurred. Thus one child, of three months old, died on the sixth relapse of this erysipelas.

The best, but, unfortunately, the rarest termination, is in resolution. Sometimes it leaves behind it a number of small hard tumours in the cellular tissue, which are finally absorbed, or more frequently ter-

minate in abscess. The termination in gangrene is rare with us : when this did take place, it invariably attacked the scrotum and inguinal regions. In a great many instances the erysipelas was developed in consequence of vaccination. It sometimes appeared as a traumatic inflammation, on the 2nd or 3rd day; but in a majority of cases, not until the 8th, 9th, or 10th day, and then more evidently depended on the vaccine poison. The remote cause probably was, our submitting the children to the operation of vaccination at too early a period after birth; for the number of cases considerably diminished, as soon as we began the practice of vaccinating on the 14th day after birth, whereas formerly it was the custom to vaccinate on the 7th or 8th. In many cases, however, the disease attacked children who had never been vaccinated, or subjects vaccinated a long time before; it then seemed to be in consequence of some epidemic constitution. Long experience shows that it is never of a contagious nature; but in one remarkable instance, erysipelas attacked nine out of eleven children who were vaccinated from the same infant, and that in a few hours after vaccination. When the disease is once formed, the best method of treatment consists in preventing it from extending, by all the means in our power; and should this fail, in favouring, at the same time that we circumscribe, the suppuration. The first indication is most efficaciously fulfilled by scarification of the inflamed parts. Several long superficial incisions were made in such a way as to produce a very slight discharge of blood; the parts were then covered with dry, warm lint; this commonly gives rise to a diminution of the disease; but sometimes the inflammation attacks the same parts again, or even spreads. In the two latter cases the scarifications were repeated, and the inflammation was pursued wherever it showed itself, even on the face. When a tendency to suppuration manifested itself, emollient applications were employed, and the abscesses were opened. As soon as fluctuation could be distinguished. It is unnecessary to mention, that whenever any disorders of the primæ viæ, or other complication, manifested themselves, they were combatted by appropriate means. This method of treatment has now been employed for the last six months in the hospital, and with such benefit, that not more than 1-5th of the children die; whereas, formerly, more than 4-5ths were cut off by this dangerous disease.* Powdering the inflamed parts

with any fine powder, has the disadvantage of preventing us from ascertaining the progress of the disease, and the approach of suppuration, while it impedes the care necessary for keeping the parts clean, and the powder becoming mixed with the urine, creates a new source of irritation.

Cephalæmatoma presents itself about three times during the course of the year. I have never seen it after the first year; and all the patients had been affected before they were brought to the hospital. The elevated, hard ring, which Michaelis described as surrounding the tumour, and characteristic of this disease, is, in my opinion, a constant symptom; he was mistaken, however, in describing it as a proof of the absence of the external table of the cranium, for, on sounding with a probe, after having opened the tumour, I found that the bone was far from always being absent, but was destroyed by caries when the tumour was left to itself. In all other cases the disease is a harmless one; the general health of the child is good; and I have never seen the comatous state, mentioned by Göllis, as accompanying it on some occasions. The disease is occasionally dissipated by warm aromatic fomentations, but more frequently it is advisable to open it with the bistoury, discharge the blood, &c., and then apply fomentations. In a late case I obtained the absorption of the tumour, by the use of pressure, after Henschel's method, which seems advantageous whenever circumstances forbid our having recourse to the knife.

Trismus is, fortunately, not a frequent disease in the Petersburg hospital; about 20 cases occur every year. I have tried every kind of treatment, but have never been so lucky as to save a single child. Meissner is mistaken in saying that the child is always unable to swallow any medicine. This only occurs when the tetanic state has gained the oesophagus.

Blepharoblennorrhæa affects about forty in every five hundred of the patients in the hospital. The disease is generally curable, but sometimes, though rarely, is followed by specks on the cornea, or destruction of the eyeball. This latter accident would seem intimately connected with some more grave affection of important organs, for most of the children who lost their sight, died in a state of atrophy. The milder form of inflammation yielded to repeated washing the eye with a warm solution of the *aqua saturnina*, reduced to one-half its strength; gentle purging, and avoidance of light, &c. In more severe cases leeches were applied behind the ears, and under the eyelid; blisters were placed on the neck; calomel was administered in large doses; the chronic stage was generally treated with a weak solution of corrosive sublimate, containing opium.

* English surgeons have treated phlegmonous erysipelas with deep incisions, extending to the muscular tissue; but we are not aware of its having been applied by any other writer to infantile erysipelas.—P. H. G.

Syphilis neonatorum is a common disease in all hospitals appropriated to the reception of the children of the poorer classes. It presents itself ordinarily under the following appearances:—

1. The common copper-coloured spots.

2. Small round ulcers on the tongue, the lips, the mucous membrane of the nose, and the anus, consequent on the pustule.

3. A shining, tense tumefaction of the mouth and chin, of an inflammatory nature. It also manifests itself on the upper part of the loins, where it is mixed with intertrigo; also, on the back, the scrotum, the external organs of generation, and the soles of the feet. These tumors change into vesicles, which, sooner or later, form small round ulcers, or, in some cases, crusts. This is the *cutis tensa chronica* of Gölis, who long ago suspected its syphilitic origin.

4. Furuncular tumors (Beulin) on the body, and particularly on the head.

5. Obstructed nares; this is often the first symptom of a syphilitic affection, and, hence, requires the greatest attention. In some cases the mucous pustule, and its ulcer, appear immediately after this symptom, and may be situated so high up on the mucous membranes as not to be detected without the greatest care.

6. Tumefaction and inflammation of the ends of the fingers and toes, about the roots of the nails, terminating in suppuration or the formation of small pustules. This symptom is one of the rarest.

7. Exfoliation of the epidermis from various parts of the body, particularly the extremities, in somewhat thick small scales. This form does not present itself frequently, and is not distinguishable from the other exfoliations of the epidermis, to which young children, even those enjoying the best health, are exposed.

The course of these symptoms is very uncertain. In most cases obstruction of the nose first appears, then follow the ulcers, &c.; but sometimes the contrary takes place. Sometimes the *cutis tensa*, sometimes an exanthematous eruption, is the first symptom. I never saw one single symptom continue alone, for any length of time. After a few days, it was invariably joined by one or more others, when the diagnosis became easy.

As to the immediate cause of the disease, my experience has convinced me, that *infantile syphilis* is very seldom communicated to the child by contact with the mother during delivery, but is generally derived from the father labouring under consecutive syphilis. We have frequently seen children at the breast labouring under syphilis, and even destroyed by the disease, while the mother was perfectly healthy. In many other cases, the disease breaks out in children several months old, without our being able to discover the least trace of con-

tagion; on the other hand, I have never as yet seen any child born with the disease, or attacked immediately after birth. Hence, it would appear, that an external infection is by no means necessary for its development. A woman was infected by her husband at the fifth month of her pregnancy; the husband himself had been cured, but, according to his own account, ulcers again broke out lately on his genital organs, without any new contagion, and were followed by consecutive blotches on the face. The woman had ulcers of the labia, condyloma, and an eruption over the whole body, but was perfectly cured before any signs of labour had commenced; and of this I assured myself by examination. The child was small and weakly. On the eighth day after birth, it was attacked with inflammatory tumours of all the fingers and toes, with ulcers about the anus. The mother all this time continued perfectly healthy, but the father still suffers from secondary syphilis.

Hitherto we have found infantile syphilis a most dangerous disease. All the children who were separated from the breast, as soon as the first symptoms of disease manifested themselves, died without exception. The unfortunate little sufferers are exposed to three most unfavourable influences, viz:—the disease itself, the mercury, and the artificial feeding. His only chance of safety lies in being suckled by the mother, or some generous-minded nurse, who, foreseeing the certain death of the child, are ready to expose themselves to danger by giving him the breast. Such examples of love and humanity are not rare among us; but, alas! they are not always rewarded as they merit: only about one-fourth of the children escape.

The older the child is when attacked, the greater the hope of cure. The treatment which we always employ is the administration of the *mercurius dulcis*, or Hahnemann's quicksilver, in doses of from one-eighth to one-fourth of a grain. Every attempt that we made to affect the child through the mother failed.

Atrophia Infantum.—Meissner, in his excellent work on diseases of children, has given us a perfect description of *atrophia infantum*. However, in accord with several other writers, he describes the disease as being peculiar to children artificially nourished. From my own experience, I should say, that most children born before their time die of this disease, in which also syphilis, and several other affections, commonly terminate. Imperfect or deranged functions of the intestinal canal, resulting from anomalies of the primæ viæ, or glands connected with them, seem to be the principal cause of this complaint; at least, its symptoms would indicate this; and, on examining the body after death, I have very frequently observed thinning and contrac-

tion of the parietes of the intestine with small miliary bodies on the external surface and tumefied mesenteric glands.

Children born with an appearance of atrophy, and before their time, were often kept alive by careful injection of human milk into the mouth, and by placing the infant in an equable and moderately-warm temperature. For this latter purpose we employed, with great benefit, a cradle, invented and presented to the hospital by Dr. Von Rühl. It is composed of a double wall of iron-plates, between which a quantity of warm water is contained. When the atrophied child is more old, his diet requires to be regulated with the greatest care. The nurse's milk must be frequently examined, both with respect to its quantity and its quality, and this the more carefully whenever we have any reason to suspect the child is neglected, &c. Changing the nurse sometimes effects a wonderful cure, even when we can find nothing to blame in herself or her milk. In some cases I have obtained the most marked benefit by the use of soup-baths, as a secondary means of cure; in several other cases from the Iceland moss, which I am in the habit of treating with cold water instead of hot, as is commonly the case, to avoid extracting the bitter principle.

Examination of the body after death has several times revealed the existence of softening and perforation of the stomach, where the symptoms during life were anything but calculated to represent such, and where the characteristic signs of Cruveilhier,—excessive thirst, and constant vomiting,—were wanting. These cases, probably, were examples of perforation occurring after death.

Intussusception of the Bowels.—The same remark is applicable to this, which we often found while examining the bodies of our patients, occupying one or more points of the intestinal canal. In some cases it was not preceded by the slightest symptom which could lead to a knowledge of such an accident, especially where the child laboured under chronic diarrhoea. In others, however, the usual symptoms manifested themselves, of which the most constant were, great uneasiness, anxiety, quick sinking of the eyeball in its socket, disturbed vision, the globes generally being directed upwards; a few, dark-greyish stools; vomiting every thing swallowed, not immediately, but a few minutes after. The abdomen was neither tumid, nor painful on pressure, as some writers observe.

Diarrhoea often prevails in an epidemic manner in the hospital, especially during spring and summer. It carries off many of the children, and is commonly catarrhal, but often inflammatory. In many cases diarrhoea manifests itself as a sporadic complaint, and is clearly gastric, from over-feeding, indigestible food, &c.

In the *catarrhal form* we administer warm

baths and mucilaginous drinks, with tincture of rhubarb and fennel water; if chronic, with a weak infusion of valerian and syrup of saffron, and at a later period with a few drops of laudanum, which I have frequently administered in small doses to infants, without ever producing the terrible consequences of which writers speak; finally, the abdomen was rubbed with some balsamic liniment, containing opium, and was covered with flannel, or a plaster, to which sometimes we added a little tartar emetic.

Gastric diarrhoea is distinguished by the indolence of the abdomen, and the fluid stools, containing solid masses of various colours and appearances, and in which we can sometimes distinguish the undigested food. The two main points of treatment are, changing the nurse, and frequent frictions over the belly with some balsamic liniment. In the inflammatory form we employ, according to circumstances, leeches, sinapisms, and even blisters on the abdomen; internally, nitrate of potass, and calomel and opium, in small doses. When the course of the disease is very acute, it assumes the character of cholera, with great anxiety, watery stools, vomiting, sudden collapses of the body, and chiefly of the eyeballs. Absence of the main symptoms, such as loss of pulse, cramps, and the marble coldness of the body (which, on the contrary, is very hot), is sufficient, however, to show the difference between the two complaints. Examination of the body always revealed evident inflammation of the bowels, and sometimes of the peritoneum.

Hydrorachitis occurs about two or three times a year. The tumour was, in most cases, open and gangrenous, probably from violence during birth. One child lived 10 days, with a sphacelated cunda equina. In another case we opened the tumour with a cataract knife, and on several occasions drew off an ounce of fluid at a time, but the child cried without ceasing, so long as the tumour remained empty; when the fluid had been renewed, he became quiet, and bore even pressure on it without appearance of pain. This child continued to live, and is now four months old. The situation of the tumour, most frequently at the inferior part of the vertebral column, and its perfect transparency, seem to me to be the most sure diagnostic signs.

In addition to the signs just given, we may mention the half-inflamed, wrinkled appearance of the skin all round, the foul gangrenous aspect of the tumour, the symptoms of pain when it is roughly handled, and the constant discharge of a thick fluid from it. The term "*spina bifida*" is founded on an erroneous estimation of the nature of this malformation of the spinal marrow. In all the cases I have seen, and in most of those described by authors, there never existed any fissure in the spinal column, but

the malformation was produced by absence of the spinous processes, and of a portion of the bodies of the vertebræ, at the points occupied by the tumour.

In cases of *chronic hydrocephalus*, several of which present themselves every year, we never obtained any beneficial results from puncturing the cerebral membranes. In one case the child's life was prolonged for some time after the senses of hearing and seeing had been lost. The child again took to the breast, and seemed somewhat stronger, but died after the fourth puncture. On examining this child, we found that nothing existed within the cranium except the anterior portions of the brain, although even these were in a state of diffuence; the posterior parts had completely disappeared, and their place was occupied by fluid. The operation was easily performed by introducing a small trochar at the anterior fontanelle.

Acute Hydrocephalus very frequently attacks our children, even the youngest amongst them. During summer, especially during the violent heat of 1831, it was evidently produced by sun-stroke. The remedies commonly employed, and often with success, are leeches, cold fomentations to the head, sinapisms, purgatives, nitre and calomel, with or without digitalis. I propose to communicate the result of my experience on this dreadful disease at a future time.

All the children were *vaccinated* at about the 14th day after birth. More than 4,000 infants belonging to the establishment, and 2,000 externes, were vaccinated. The method pursued is as follows:—All the children were vaccinated in both arms, by different physicians, and with different vaccine matter. The lancet-point, charged with matter, was introduced under the epidermis, from above downwards, and moved about in the small wound, so as to bring the vaccine in perfect contact with the surface. Six of these incisions were made on each arm, partly with the object of introducing a greater quantity of matter, and partly with that of rendering the operation more certain; this latter was probably obtained, for on an average we do not fail in more than eight out of one hundred cases.

The vaccine pustules vary much in size, form, &c., according to the individual. In maturely born and healthy children they commonly present the aspect described by Jenner, and run the same course. Hence I cannot admit with Rust, and several other writers, the idea of the vaccine matter having degenerated, especially since that we employ has never been renewed since Jenner's time; yet its power seems as perfect as when it was first introduced. The propriety of vaccination, after a lapse of ten to fifteen years, seems to be better demonstrated; for, in our children, when re-vaccination was practiced, true vaccine pustules

manifested themselves in three out of 100 cases.

I cannot conclude these brief and strictly practical remarks on the diseases of newborn children, without observing that my own experience, confirmed by that of many modern writers, shows that most of the diseases of this period of life are connected with congestion or inflammation. This is proved, not only by the result of numerous post-mortem examinations, showing the existence of inflammation, or at least congestion, in most of the tissues, but also by the success of the antiphlogistic treatment which we employ.

A N E C D O T E S

FROM MR. OTTLEY'S

"LIFE OF JOHN HUNTER,"

EDITED BY MR. PALMER.

WE preface the following characteristic extracts, (which will afford some very pleasant reading to those who have not purchased the above work), with an introductory remark by Mr. OTTLEY, whose apology will serve a double purpose,—the biographer's and our own:—"During the time," says Mr. Ottley, "that Mr. Palmer contemplated writing this life himself, he was at the pains to gather as much general information, and as many authentic anecdotes, as possible, respecting the subject of this memoir, from his surviving friends and pupils. Of these anecdotes, many of which are highly characteristic, I have introduced by far the greater number; some which I have inserted may be thought so trivial as scarcely to have merited notice; but I have preferred rather to risk having this laid to my charge, than to omit anything that might serve to illustrate Hunter's real character."

Tenderheartedness of Surgeons.—We seize, first of all, the opportunity of extracting the following pleasant anecdote from a short notice of Cheselden, under whom Hunter studied at Chelsea Hospital:—"Cheselden's manners were exceedingly kind and gentle, and notwithstanding the extensive practice he had enjoyed, he always, before an operation, felt sick at the thoughts of the pain he was about to inflict; though during its performance his coolness and presence of mind never forsook him. In alluding to this feeling, Morand relates an anecdote of a French surgeon, who, on visiting the hospital, expressed great surprise at witnessing such an evidence of weakness, as he considered it, on the part of so famous a surgeon. After the operation was over, the visitor was invited by Cheselden to accompany him to the fencing school, whither he was going to see a sparring match; but here the tables were