in the papillary layer, there is a thickening of the rete mucosum, caused by an increased growth of epithelial cells. In lupus, for example, a cell-growth in the cutis, with which the epidermis has nothing to do, the rete mucosum becomes much thickened. In the cases of rodent ulcer, in which a marginal "ridge" is present, the rete becomes very thick near the margin of the ulcer, before it yields and breaks down, the thickening being purely physiological, and having nothing to do anatomically with the peculiar epithelial growth in the papillary layer, which is the essential feature of the disease. In *malignant papillary dermatitis of the nipple*,* also, I find, coincident with effusion and infiltration in the superficial layer of the cutis, a considerable thickening of the rete mucosum. A thickening of the rete is one of the changes which are produced when there is moderate and continued pressure from effusion from the superficial blood-vessels, and for the interpapillary thickening in psoriasis it is not necessary to seek any other cause. The very moderate amount of cell-infiltration that accompanies psoriasis, and the considerable changes found in the epidermis, are much in favour of the view that the affection of the blood-vessels is secondary to that of the epithelium. The scaling of the epidermis (desquamation in the various degrees) with which we are familiar as a consequence of inflammatory congestion of the cutis—is different in character from that which distinguishes psoriasis. I regard as direct proof that the epidermis is first in fault, appearances such as that shown in fig. 6. Here we have a breaking-down of the epithelium limited to a given point, and far in excess of any changes in the blood-vessels which, at this distant part, can be found to explain it. The special diseased change is at this point in active operation, although it is beyond the zone in which inflammatory changes are found in the blood-vessels. Beneath the part thus figured, the nuclei of the vascular wall are, in the preparation, distinctly stained, and here and there a lymph-corpusele is seen in the tissues; but there is no appearance which justifies the idea that there is distinct inflammatory congestion. My explanation of the changes found in the vascular tissues is, that they are provoked by the irritation set up by an unhealthy epidermis.

Shortly expressed, histological analysis has carried us thus far. A diseased condition of the epidermis at certain localised points leads to inflammatory changes in the subjacent vessels. The serous effusion which takes place from the injured vessels, breaks down the diseased epithelium, and leads to the formation of a papilla. At the same time, whilst the apex of a papilla is being thus excavated, a new formation of epithelium takes place at the side of the new papilla, and by growing downwards, the papilla becomes longer. The exudation from the vessels favours a rapid formation of cells in the rete mucosum; but these cells, from a defect the nature of which is not understood, do not go through the normal changes by which the horny layer is formed, and are thrown off whilst the transformation is incomplete.

The pressure of the effusion from the blood-vessels on the rete produces certain mechanical changes. Neumann had already observed that, in an early stage of the disease, the cells of the rete assume a horizontal position. This can be sometimes seen affecting the cells immediately above the cylindrical cells.

Neumann further observes that the "prickles" of the prickle-cells disappear, that the so-called "nuclear cells" increase, and that, instead of one, there are several rows of cylindrical cells. This description applies to accidental appearances which do not have any direct bearing on the essence of the disease.

Of the cause of the change in the vitality of the epidermic cells, by which the process is introduced, we are ignorant. That it is associated with some constitutional condition of the cells themselves, appears to me to be shown by two considerations. Psoriasis is a hereditary disease, and an inherited tendency to any form of degeneration on the part of a tissue is properly described as constitutional tendency. But further, in a person in whom the disease is in full development, it is possible to excite psoriatic patches on the integument by scratching. One can write psoriasis on their skin. Injury to the rete mucosum is followed by the development of the changes peculiar to this disease. There can be no stronger proof that the predisposing cause of psoriasis is to be found in a constitutional peculiarity of the epidermic epithelium in certain individuals and families.

But although the psoriatic change may break out independently on different parts of the body—apparently spontaneously, but probably always provoked by some external irritation—its extension follows a law which, although not peculiar to this disease, deserves careful study wherever examples of it are found. The law to which I refer is the multiplication of a special diseased action by the influence of contact. When a circle of psoriasis spreads by continuity, it spreads by infecting the contiguous healthy epithelium, and setting up in it the change by

which the normal formation of the rete mucosum is depraved. I apprehend that this action is different from that of a *trauma*, that by which irritation by scratching, for example, produces the psoriatic change. Other lesions of the skin—as eczema and syphilis—run their course in psoriatic patients, and pass over without leaving psoriasis behind them on the parts of the skin which were affected, without generating or extending the morbid action. The psoriatic epithelium, on the other hand, is a slow but certain agent in extending the specific effect; and it is reasonable, therefore, to infer that it is here the specific cause of the advance of the disease.

Of the unknown *materies morbi* in psoriasis, something may be learned from the effects of treatment. The psoriatic epithelium produces a cause of irritation which acts injuriously on the walls of the blood-vessels (that is, in common language, produces inflammation), but the degree of inflammation which it is capable of exciting is comparatively slight. To the narrow limits within which this inflammation is confined, the disease owes its characteristic features. Some morbid agents produce sufficient inflammation—that is, sufficient exudation from the blood-vessels—to ensure their own destruction, and bring about what is then called a spontaneous cure. This is not the case with psoriasis; but a certain degree of superadded inflammation can be artificially induced, in which the exudation is fatal to the disease, and supplies the material for the formation of a healthy epidermis. This degree of inflammation has limits which, in treating the disease, should not be exceeded. All irritants are not equally well suited to produce it. It is to their capacity of ensuring just sufficient, but not too much, inflammation, that the curative effects of irritants like tar, sulphur, chrysarobin, and pyrogallic acid, when properly applied externally, owe their power to cure psoriasis; and it is by bearing in mind that this is their *modus operandi* that the practitioner will best learn how to use them. This curative action of superinduced inflammation is well illustrated by treatment with pyrogallic acid.*

I introduce this subject only parenthetically here, in order to illustrate my suggestions regarding the incompatibility of the disease in the epidermis with a certain amount of exudation from the blood-vessels. The congestion produced by pyrogallic acid is made apparent by the colour of the skin under treatment; and its power to excite destructive inflammation when used even in moderate strengths is illustrated, sometimes disagreeably, by the superficial abrasions around the *lanugo* hairs.

HINTS FOR TRAVELLING, IN THE CASE OF CHILDREN.

By ARTHUR W. EDIS, M.D., F.R.C.P.,
Assistant Obstetric Physician to the Middlesex Hospital, etc.

THE following practical hints may prove of service to many members, who are often appealed to by their patients, at this time of year, as to the management of mere infants and young children on long railway journeys, whether to the seaside or elsewhere.

Severe attacks of sickness and diarrhoea, not unfrequently ending fatally, are often met with in infants, who, for some reason or another, are not being suckled, but are solely dependent upon milk from the bottle, from the fact of the milk turning sour. To prevent this, the milk, before starting, should first be boiled, allowed to cool, and then either a teaspoonful of Dinneford's fluid magnesia, or as much carbonate of soda as will lie upon a threepenny-piece, added to each pint. The milk so treated should be placed in soda-water bottles, first carefully rinsed out with hot water, taking the precaution to fill the bottle completely, so as to avoid its being shaken in transit. It is better to use soda-water bottles than the larger wine-bottles, as there is less risk of the remainder turning sour or being spoiled by the shaking inseparable from rapid travelling. A soft cork from a champagne, soda-water, or seltzer bottle (if a perfectly new cork cannot be obtained), which should be first well scalded, and then slightly tapered off, so as to allow of its being readily replaced, is inserted into the neck of the bottle. As each bottle holds about half a pint, it will be requisite to take as many as are likely to be required on the journey. Care should be taken to wrap them in paper or linen, to prevent any risk of their being broken by knocking against each other in the basket.

In very warm weather, more especially in unsettled states of the atmosphere, when thunderstorms are prevalent, even these precautions may not be sufficient to prevent the milk from turning sour. Under these

* This acid, a powerful poison when applied to too large a surface, or incautiously used, I have found, in confirmation of the statements of continental dermatologists, produce very speedy and satisfactory results. My experience with it has shown me that the strength in which it is used should be varied according to the differences in the skin of individual patients, and I never apply it to a large surface.

* See the BRITISH MEDICAL JOURNAL, May 14th and 21st, 1881.

circumstances, it may be necessary to resort to other expedients. The best by far is to depend upon Swiss milk. The tin being opened before starting, and a little of the milk taken out to prevent any running over, it is placed carefully in an ordinary small travelling provision-basket, not in a hand-bag. It is better to have a teaspoon as well, so that the quantity may be easily measured. Children, even if they are not accustomed to this kind of milk, take it readily, and digest it well. Even though the tin be left open, the milk remains perfectly good during the longest journey.

The next difficulty is in providing hot water to mix with the milk, or in heating the mixture to a proper temperature without the trouble and risk of boiling it over a spirit-lamp every time the child needs the bottle. Where many children travel in one compartment, during the night, or in a journey occupying over twelve hours, the risk of accidents happening from a spirit-lamp being upset is by no means slight, and is one that may readily be avoided by one of the following expedients.

An ordinary stone bottle, such as is commonly employed in winter to place at the foot of the bed to keep the feet warm, holding about half a gallon of water, is first wrapped round with several thicknesses of sheet cotton-wadding, the ends being brought round so as to entirely encircle the bottle. Outside this, two or three yards of stout house-flannel are wound, and fastened securely by a needle and thread, the ends being gathered in, as in the case of the wadding. The flannel and wadding are, of course, cut so as to allow the neck of the bottle to protrude. To improve the appearance of the whole, a piece of scarlet flannel is then neatly sewn on, and an ordinary rug-strap, with a handle, adjusted, so as to allow portability. A few hours before starting, the bottle must be filled with nearly boiling water, and the cork, which must be perfectly clean, or the screw-stopper, adjusted. The object of doing this is to heat thoroughly the bottle and its coverings. Shortly before starting, the bottle is first emptied, and then again filled with fresh boiling water. This can be readily carried by the aid of the strap without any inconvenience whatever. If properly prepared, the water, which at the time of starting is at a temperature of about 200° Fahr., will remain considerably over 100°, even though the quantity is constantly being diminished, for a period of twelve to sixteen hours.

If Swiss milk be employed, the better plan is to have a small pitcher or breakfast-cup in which to mix the water and milk before placing the mixture in the feeding-bottle. The first few bottles will need to be prepared a short time before being wanted, so as to allow the mixture to cool down to a proper temperature before it is given to the child. After twelve hours or so, the mere fact of mixing the water with the milk in a cold cup, and the necessary exposure to the atmosphere, reduces the temperature sufficiently to allow the bottle to be given without more than a very brief delay. As there is no opportunity of soaking the tube in cold water, after being used, during the journey, it is well worth while to be provided with one or more reserve bottles—which are very inexpensive—so as to lessen any risk of the milk becoming curdled from any fermentative changes in the tube or its fittings.

Where the child is being brought up on cow's milk, and it is considered better not to change it, Grout's infant food-warmer (manufactured by Allen of Maylebone Lane) is a very useful invention. It consists of a double box to contain boiling water, having in its interior one two or three compartments, as may be desired, to hold as many feeding-bottles, and closing with a padded lid. By this means, the milk can be kept warm for ten or twelve hours, and is ready for the child as soon as it wakes.

Where, for any reason, neither of these methods are resorted to, the ordinary expedient of Clarke's food-warmer, with a night-light constantly burning, or a portable spirit-lamp and small tin saucepan, as used in the nursery, is, of course, available; but no one who has once tried the hot-water bottle and Swiss milk will care to again incur the risk and trouble involved in these two latter methods, when travelling in a railway-carriage at night with children.

Children who have only recently given up the use of the bottle are still dependent to a great extent upon liquid food, though it is not always necessary in hot weather that the food should be warm. For this reason, a bottle of milk and another of plain water should form part of the travelling-basket. Children suffer much from thirst, as a rule, when travelling; and, if milk be given to them undiluted, it tends to increase, and not to satisfy, this craving for liquid. Plain water, in small quantities, at appropriate intervals, allays thirst, and prevents children from being so restless and irritable.

In place of buns, cakes, and sweet biscuits, it is far better to take only plain water-biscuits, thin slices of bread-and-butter, carefully packed in a sandwich-tin, or even simple crusts of bread, which do not

provoke thirst as in the case of sweet things. Egg-sandwiches, made with eggs not boiled too hard, prove an useful addition on long journeys, and are much relished by young children as well as by adults. Ripe fruit, to a moderate amount, is also very grateful, where children are old enough to be indulged with it.

Children who are unused to travelling often have a great dread of the whistling of the engine as it enters a tunnel, or rushes swiftly past some station with gas-lamps flaring along its whole length. To obviate these, a little cotton-wool, lightly packed at the orifice of the ear, gently pressed into the external meatus only sufficiently far to prevent the wool from actually falling out, and the precaution of drawing the blind or the curtains across the carriage-windows, will prove of great service.

A word of caution as to proper ventilation may not be amiss. Children are far more likely to suffer in health from long confinement in an overcrowded and ill-ventilated compartment of a railway-carriage, than they are to catch cold if the window be let down partially, even during the night. Of course, due prudence must be observed not to allow any undue current of air to circulate through the carriage in the early hours of the morning; otherwise, a chill may readily be taken. It is a mistake to wrap up children too much when travelling in summer; the unusual clothing only irritates them, and makes them restless and peevish, preventing their sleeping, and causing unnecessary discomfort.

In cases where children are exceedingly nervous and excitable, readily frightened, and unable to sleep when travelling, a dose of five or ten grains of the bromide of potassium, combined or not with a similar dose of chloral, depending upon the age of the child and the discretion of the practitioner, is often of service in restraining undue excitement and ensuring sleep.

Many more suggestions might be given; but sufficient has been said, I trust, to induce others to contribute their experience, and so enable us to mitigate the discomforts of travelling in the case of infants and young children.

RAPID DEATH FROM HÆMORRHAGE INTO THE PONS VAROLII AND MEDULLA OBLONGATA.

By W. JULIUS MICKLE, M.D., M.R.C.P.Lond.

THE case subjoined is placed on record for the sake of its medico-legal bearings. It has often been stated of late years, and the general assertion is quite true, that death from intracranial hæmorrhage is never sudden, and at the most is only moderately rapid. It is desirable, therefore, to record any case in which death follows intracranial hæmorrhage with extreme speediness. Many are the contingencies which start into mind wherein cases of the kind might prove of medico-legal value; but one need not wait to consider these.

That the rapidity with which death may follow upon intracranial hæmorrhage has been underrated by some pathologists, is obvious from the examination of certain cases already on record; but we hasten to add that these cases seem to be excessively rare. Thus forty minutes is the shortest time in which, in their great experience, Drs. Wilks and Moxon have observed death after encephalic hæmorrhage. Among the cases of exceptionally rapid death I have seen recorded, was one in which death was apparently instantaneous, save for a single gasp. Here a small aneurysmal sac on the left middle cerebral artery had given way, and blood was found in the subarachnoid cavity at the sides and base of the brain. In another instance, rupture of a similarly placed aneurysmal sac was quickly followed by death—apparently within a very few minutes, at most. In a third and rapidly fatal example, the sac was on the posterior cerebral artery, and the blood burst into the right lateral ventricle of the brain. In a fourth case, sudden hæmorrhagic effusion was followed by death "within five minutes at the most". Much blood was effused under the arachnoid, chiefly at the base. There was blood also under the spinal arachnoid, mainly in the dorsal region. No aneurysm was found. Malpighi, of illustrious memory, died suddenly. In the right lateral ventricle of his brain were large clots, and the blood-vessels were distended.

If, in the next place, one refer more specially to rapid death from hæmorrhage into the pons Varolii and medulla oblongata, the easily available examples seem to be rare. In one instance of hæmorrhage into the pons Varolii and fourth ventricle, rupturing the valve of Vieussens, the patient, seized with epileptiform convulsions, died "a few minutes afterwards". The most rapid of the other cases I have noticed on actual record were those in which death followed hæmorrhage into the pons in one hour, an hour and a half, and two hours. Nevertheless, one systematic writer states that, when extensive, such lesions may destroy life in from a fourth of an hour to several hours;