

existence of a relation between cerebral affections and softening of the stomach. The experiments instituted by *Camerer*, to prove the influence of vagus paralysis, have no merit whatever. For example, he found that the stomachs of healthy rabbits, in which the contents of the softened stomachs of infants were introduced, suffered no bad effects whatever therefrom; but in rabbits, in which the pneumogastric and sympathetic nerves of both sides had been divided before the contents of such stomachs were introduced, death ensued in about sixteen hours, and that in one case, six and a half hours after death, all the coats of the stomach were found markedly softened; in another, seventeen hours after death, the greater part of the fundus of the stomach was dissolved. Unfortunately, he neglected to perform the counter-experiment with a healthy rabbit, viz., to divide the pneumogastric and sympathetic nerves without introducing the contents of softened stomachs, and then observe whether softening had taken place. Even perfectly-healthy rabbits exhibit softening of the stomach under this experiment, providing the animal be killed soon after the contents of a softened stomach of a child, or any other acidulous nutriment, has been administered to them, otherwise the injurious contents will be propelled onward into the alimentary canal by the action of the digesting stomach, and thus be divided too much to answer that purpose. That the stomachs of rabbits thus operated on underwent the process of softening, although they retained vitality for sixteen hours after the acidulous gastric contents had been introduced into them, is readily explained by the paralysis of the muscular coat of the stomach which it produces. As a result, the contents of the stomach remained unmoved till death ensued. But to assume at the same time a paralyzed state of the nerves of the stomach, and a "super-acid" gastric secretion, as is also maintained by some authors, is physiologically incorrect, because *Tiedemann*, and many physiologists after him, have demonstrated the fact that, after the division of the pneumogastric nerves, the gastric juice is found to be neutral, or, at least, less acid than in the normal condition.

Thus, then, according to my judgment, sufficiently weighty reasons have been given—each one of which is enough—to prove softening of the stomach not a disease; and it is only to be wished that many other time-honored and unquestioned pathological conditions could also be as accurately and positively proven to be what they really are.

(6.) CATARRHAL INFLAMMATION OF THE INTESTINES (*Catarrhus Intestinalis*).—As the stools of *intestinal catarrh* have already been described in the section on "Diarrhoea," it remains only for us to speak

of the pathological anatomy of the disease—etiology, symptoms, termination, and treatment.

If a child acquires an acute intestinal catarrh during the last few days of life, and succumbs to it, the mucous membrane of the small and large intestines will be found generally turgid, in some places either dextritically injected or traversed by a diffused, livid redness, the injected places generally corresponding to the angular curves of the gut. The solitary glands, especially in the large intestines, are seen to be distinctly swollen, and to project like small whitish prominences—of the size of pins' heads—above the reddened mucous membrane. They contain the same cells that are found in them in the normal state, but in much greater numbers. If the intestinal catarrh has existed but a short time, these lenticular follicles and Peyer's glands, which, in fact, are only to be regarded as lenticular follicles occurring in clusters, will never, or very rarely, be found ruptured; whereas in chronic intestinal catarrh they are usually seen to be ruptured, and here and there dyed with black pigmentary matter. Over large tracts of mucous membrane the newly-formed epithelial cells having been cast off prematurely and rapidly (the essential phenomenon of intestinal catarrh), do not again assume the character of primitive cylindrical epithelium, but retain the circular form of mucus corpuscles. The whole mucous membrane, as a result of the augmented afflux of blood and serous exudation, becomes swollen and heavier. The submucous cellular tissue, in the simple catarrh, remains intact; in the chronic it increases in thickness, as does also the muscular coat. The black pigmentation of the solitary intestinal glands, which gives to the entire mucous membrane a grayish-black color, almost invariably seen in chronic intestinal catarrh of adults, never occurs in nurslings, nor in larger children, except faintly, although chronic diarrhoeas are usually extraordinarily protracted in the infant. The mesenteric glands are sometimes reddened, but *never infiltrated and hypertrophied*, as in enteritis folliculosa.

**Etiology.**—The primary idiopathic intestinal catarrh occurs in nurslings much less frequently than in artificially-reared children. In the former it is scarcely ever caused by the nutriment, mother's milk; but, if the wet-nurse is unwell, suffers from diarrhoea, or is afflicted with some mental trouble, restlessness, colic-pains, perhaps a very mild and transitory diarrhoea will attack the nursling, more or less markedly interfering with its development. Most frequently intestinal catarrh in nurslings originates from cold, or eruption of the incisors, as a result of swallowing large quantities of secreted saliva and mucus, and at the time of weaning (*diarrhoea ablactatorum*). In children brought up by hand, the nutriment is a prolific source of the most

varying diseases, particularly of diarrhoea. It has already been observed in the section on "Nutrition," that the casein of cow's milk curdles in the infantile stomach into large lumps, whereas that of woman's milk forms only loose flakes, by which alone the great difference between the freshest and best cow's milk and the milk of a wet-nurse may be explained. But in large cities, where the artificial rearing of children is of the greatest frequency, it is actually impossible to procure fresh milk several times a day, and it is needless to mention the manifold adulterations of the milk. There is scarcely an artificially-brought-up child who has not suffered at least once, for a long time, from intestinal catarrh, and was thereby retarded in its development for several months.

In children over one year of age, the process of dentition is the most frequent cause. Even the physiological process, as is known, is accompanied by a moderate diarrhoea, which, however, may be aggravated and become the most profuse, cholera-like diarrhoea, and prove fatal in the course of twenty-four hours, or bring on an irremediable marasmus.

On the other hand, diarrhoeas, in consequence of abnormal irritation of the food, are less frequent in children who have passed the first year of life, for the stomach is then more capable of digesting heavier articles of diet. In summer, before the various kinds of fruit have attained a proper degree of ripeness, intestinal catarrh occurs among children of this age, epidemically, and is usually liable to assume more of the character of dysentery, for, in addition to the numerous evacuations, the children also suffer from colic-pains, obstinate tenesmus, and sometimes also from bloody stools.

**Symptoms.**—In small children affected with diarrhoea, various changes may be observed even before the appearance of the principal symptoms of this complaint. They become restless, cry almost unceasingly, draw up the thighs, refuse the breast or sucking-bottle, in short, have the various symptoms of flatulence and colic. With the first watery or liquid stool, if it is at all copious, almost all the symptoms of colic disappear permanently, if the exciting cause of the diarrhoea was only a temporary one, for example, a small quantity of sourish milk. This rapid subsidence, however, is seldom the case, it occurring almost only in children at the breast. Usually a single administration of sourish milk suffices to induce a severe intestinal catarrh that will last for weeks. The greater the extent of the surfaces of the intestines affected with catarrh, the more profuse will the diarrhoea be, the longer it will last, and the more severely will the nutrition suffer from it. Catarrh of the small intestines causes scarcely any colic and but little diarrhoea, for the secretions that are then

poured out may in greater part be absorbed by the large intestines. Catarrh of the large intestines, on the contrary, and particularly of the rectum, is frequently combined with violent pains, with tenesmus, and with constant profuse diarrhoea. The color of the *fæces* in diarrhoea is normal at first, but with every evacuation it loses in tint, so that finally a very bright yellow, even gray, rice-water-like fluid, without any smell, is discharged. The return of darker color and of odor to the *fæces* may be looked upon as the most favorable sign of the speedy cessation of the diarrhoea. The abdomen is usually painful about the navel; it is somewhat distended; borborygmus is present; the percussion-sound, when much fluid happens to be in the intestines, is in one place dull, and in another tympanitic. The secretion of urine is very much diminished; it is very rich, comparatively, in pigmentary matter, and, if allowed to stand for several hours at a low temperature (under 54° F. at the least), will deposit a sediment of double urate of soda, the so-called brick-dust precipitate. The thirst is very great; the peculiar circumstance is sometimes observed here, that the child refuses to take the breast during a severe attack of diarrhoea, but readily drinks sweetened water, or prefers pure cold water; as soon, however, as the diarrhoea is checked, it will not touch any cold water, and returns to the breast with its former avidity. Artificially-fed children will take a few teaspoonfuls of broth to allay thirst, by which they are quieted for a short time, but very soon become all the more excited by the irritation caused by the newly-administered food; from this excitement they do not recover for hours. When a child is so unfortunate as to be attended by persons who suppose that its restlessness can be allayed by feeding it, and will therefore rise several times in the night to prepare pap or porridge for it, though it may consume but a very few teaspoonfuls, we will never succeed in saving it from death, unless they can be convinced of their false views and pernicious practice. I, at least, have never yet been able to carry a child through, that was nursed by such attendants.

At the invasion of a simple intestinal catarrh, the children have no febrile symptoms, such as dryness or increased temperature of the skin; on the contrary, when the diarrhoea is profuse and colorless, they soon become cold, the tip of the nose white and cold, the breath loses its natural warmth, the lips turn pale and bluish, as do the tips of the fingers, and the adipose tissue that fills up the orbits disappears extremely quickly, the eyeballs sink back into the orbits, and the expression of the countenance peculiar to these patients results. But after the diarrhoea has been arrested, fever usually comes on in consequence of the augmented metamorphosis of the tissues, in most cases lasting very long, retarding the recovery, and often leading to en-

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teritis folliculosa and atrophy. When this fever of reaction is of short duration, a rapid recovery will ensue after its disappearance. The stools for some time will retain their abnormal quality, for they either become very hard or remain slimy, and then assume an offensive smell, the appetite returns again, and the children remain quiet after their meals; this is the surest sign that the digestion again goes on without difficulty.

The most frequent complication of this disease is catarrh of the stomach; the vomiting, however, as a rule, ceases before the diarrhoea. Bronchitis complicates intestinal catarrh equally often. The prognosis assumes a most unfavorable aspect when the disease passes into enteritis folliculosa, which happens so frequently in artificially-reared children.

**Treatment.**—In children at the breast, a mere dietetic treatment of the wet-nurse is usually sufficient. If she suffers from dyspepsia, without fever and intestinal catarrh, as is very frequently the case from emotional excitements, then her diet should be restricted for a few days; she should only be allowed milk, soups, some coffee, meat-broths, and boiled fruits; as a drink, almond-milk, wine-and-water, or pure water. The secretion of milk from such a diet, so long as there is no continued fever present, is never arrested; it is at the most somewhat diminished, but that is very beneficial to the nursling that suffers from diarrhoea.

If a wet-nurse, through some error of diet, has contracted vomiting and diarrhoea, a stricter regimen will have to be instituted; she should then get nothing but mucilaginous soups, wheat bread, and demulcent drinks, rice-water, gum-water, salep-water, or almond-milk; and if, after two or three days of such a course of treatment, the diarrhoea is not arrested, then ten or twelve drops of laudanum are to be given to her immediately after nursing the child, and she should wait at least four hours before she puts the child to her breast. But if the diarrhoea nevertheless tends to run into a chronic form, and no benefit has accrued from the use of laudanum, then, while enforcing a strict diet, I desist from the further use of opium and give astringents, alum, tannin, colombo, argent. nitr., etc. Medicine can seldom, if ever, accomplish much in children at the breast, because most of them unwillingly take any thing from a spoon, and spit the fluid out again that has been poured into the mouth. For these reasons, the pencilling of the mouth with laudanum is the most convenient and practical procedure. For this purpose, I use a camel's-hair brush; dip it into laudanum, shake off the first drop by snapping it with the finger, and then introducing it into the mouth of the child, press the chin a little upward, and pull the brush out from between the compressed lips. In this manner

about half a drop is left in the mouth, and, if two or three drops of water are dripped upon the tongue, the child will swallow all the fluid contents of its mouth without any delay. Usually a sleep of several hours' duration and an arrest of the diarrhoea follow upon this procedure. I have never observed from this application the bad effects, cerebral irritation, and cerebral congestion, which are said to ensue from opium, possibly from larger doses or from a long-continued use.

Great benefit is derived, in children at the breast suffering from this disease, from small clysters of demulcent decoctions, barley infusion, for example, with one or two drops of laudanum. For the introduction of medicines into the rectum, which in order to become absorbed ought to remain there for several hours, the common children's syringes are much too large, and I have therefore for some time been in the habit of using small uterine or urethral tin syringes, which I apply myself after having them well oiled and warmed. Quantities of two or three drachms are almost always retained, and the action of the opium begins in from thirty to sixty minutes.

Children brought up by hand suffer from a totally different kind of intestinal catarrh than those at the breast, for the exciting cause of the disease, the unsuitable nutriment, is not here a temporary one, but is continued for a long time and during the sickness. In general, the rule holds good that *no child with intestinal catarrh tolerates cow's milk*, whether pure or mixed with tea or boiled into a broth with meal or bread, and that the diarrhoea will only exceptionally be arrested if a milk-diet is persevered in. The first condition, therefore, is a total abstinence from cow's milk. As soon as liquid stools appear, the patients should only be allowed demulcent drinks, of which the best and most constipating is a decoction of salep, prepared fresh twice a day, by boiling as much powdered salep as can be taken up on a silver half-dime in ten ounces of water. In place of milk, the children may be allowed for their meals a thin mucilaginous beef-broth, with rice, barley, or groats, slightly sweetened with sugar; it should, however, be deprived of fat, and without salt. This diet is to be continued for twenty-four hours after the stools have acquired their normal consistence; if the appetite has improved, a few teaspoonfuls of triturated wheat-bread may be boiled in the beef-broth. For further particulars, we refer the reader to the chapter on "Artificial Nutrition," p. 43. After the stools have been normal for at least two days, a trial may be made with one milk-pap each day, then with two, and finally three a day, and the salep-water should be continued till it may appear proper to substitute it by the ordinary spring-water.

The pencilling of the mouth with laudanum and the use of opiate

clysters stand at the head of all therapeutic measures. But occasionally, in the profuse diarrhoea of summer, opium proves inefficacious; then small doses of calomel, gr.  $\frac{1}{3}$  three or four times daily, or a solution of nitrate of silver (gr. ss to water  $\mathfrak{z}$  iij), with the addition of one drop of laudanum, without any syrup, proves more effectual. Vegetable remedies containing tannic acid, such as colombo, rhatany, pure tannic acid itself, and astringents in general, are with difficulty administered to small children, unless mixed with large quantities of syrup, and on that account are but seldom resorted to; in older children, however, they may be oftener employed. In some instances I have seen the diarrhoea checked by a solution of alum (gr. vi to mucilage  $\mathfrak{z}$  iij), though it was not possible to arrest it by any of the remedies just mentioned. The principal treatment will always be a proper prophylaxis. No cow's milk should ever be given to children, unless it is first rendered alkaline by adding a teaspoonful of a soda solution ( $\mathfrak{z}$  j to water  $\mathfrak{z}$  vj) to every meal, as described in a previous chapter, and it will then become speedily evident that intestinal catarrhs may often be avoided, or, where they already exist, rendered less severe and protracted. Had I the choice, when compelled to treat an intestinal catarrh by the diet or by medicine only, I would prefer to try the dietetic treatment alone; for I have often satisfactorily convinced myself of the utter inefficacy of all therapeutic remedies in the treatment of this disease when the child is sustained on a milk diet.\*

(7.) ENTERITIS FOLLICULOSA AND TABES MESENTERICA.—It is of great practical importance to carefully diagnose between simple intestinal catarrh and enteritis folliculosa, although the anatomo-pathological differences are not very striking, and the transitions of that disease into the one under consideration are of very frequent occurrence.

**Pathological Anatomy.**—The submucous tissue is found markedly infiltrated, so that the bowel has perceptibly increased in weight, and the signs of an acute intestinal catarrh are present upon the entire mucous membrane of the large, and upon an extensive tract of the small intestines, i. e., instead of the normal cylindrical epithelium, none but mucous corpuscles are seen. The solitary glands and Peyer's patches are in some parts intensely swollen, and at the first glance are seen to project like white nodules above the level of the mucous membrane; in other parts, however, they are already ruptured, and then represent empty, minute, crater-like excavations. These excavations occur upon the summits of the elevations originally produced by the swelling of the follicles. The mesentery is injected and turgid, the chylopoëtic vessels are plethoric, and of a pink color; the mesenteric glands in those regions corresponding to the in-

\* See Appendix, Treatment of Diarrhoeal Diseases.

testinal catarrh are increased in size from two to four fold; in recent cases, when cut into, the incised surface presents a rose-color, but, when of longer duration, a yellowish-white color. The microscopic elements are the same as in the normal mesenteric glands, but when the color is yellowish and the gland has increased in hardness, the connective tissue will be found to predominate. Here, too, as in simple intestinal catarrh, notwithstanding the long existence of the diarrhoea, remarkably little pigmentation of the mucous membrane is found. The essential anatomo-pathological difference between intestinal catarrh and enteritis folliculosa consists in the circumstance that in the latter the mesenteric glands participate in the disease. It is much to be regretted that neither by injections nor in any other manner can it be experimentally proven that the absorption of the chyle is hindered by these hypertrophied mesenteric glands, and thereby the nutrition and progressive development of the child interfered with. But, when in an atrophied child, whose condition was originally induced by enteritis folliculosa, no changes but those indurated and hypertrophied mesenteric glands are found, the supposition becomes very probable, that the passage of the chyle has been mechanically interrupted, and thus the children, although they have consumed an enormous quantity of food, and have had no diarrhoea for weeks preceding death, have nevertheless languished to a certain extent for want of a sufficient supply of chyle. The term *tabes mesenterica* of the older physicians is therefore by no means so incorrectly founded and obsolete as some of the later writers are inclined to represent it. The older erred only in this, that they thought they *could feel the enlarged glands*. In this glandular hypertrophy the intestines always become tympanitic and distended, and then it is altogether impossible to feel these small tumors, which scarcely ever attain to the size of a hazel-nut, between or beneath the tense bowels. At any rate, they must be forcibly compressed against the vertebral column, if it is desired to feel them.

In instances of *developed tuberculosis of the mesenteric glands*, as it sometimes occurs in children several years old, the firm, hard, solitary tubercles may indeed be felt through the abdominal walls. But these are larger glands agglomerated into patches or masses, and traversed by deposits of cheesy tubercle. Such slight enlargement as is observed in enteritis folliculosa can never be detected during life by the sense of touch.

**Symptoms.**—Enteritis folliculosa always begins with intestinal catarrh, and consequently we may refer the student to the symptoms of that disease given in the preceding section. But, instead of the stools becoming semisolid in a few days, and the nutrition

regulated as in simple intestinal catarrh, they remain perfectly liquid and assume a putrid, foul odor, erode the anus and its adjacent parts, the inner surfaces of the thighs, and even the heels, which are brought in contact with the anus by contractions of the thighs and legs. An intense continuous fever becomes superadded, and the patients have a constant and severe thirst. The tongue is red and smooth, or coated with a white fur, and in the latter stages of the disease almost always affected with thrush. Vomiting is frequent, but not present in all cases. Rapid emaciation is characteristic of the disease. In previously perfectly-healthy, well-nourished children, small wrinkles are soon observable on the inner surfaces of the thighs; and the adipose tissue, that was previously firm and solid, is now felt to be soft and flabby. Under the continuation of this putrid diarrhoeal discharge emaciation progresses so rapidly that, at the end of a few days, the bones of the hands and feet plainly show their outlines, and the integument on the thighs forms loose, flabby folds. On both sides, a collection of inguinal glands may now be detected, which also swell up to twice or thrice their normal size. The eyes are sunken, a deep fold forms from the inner angles to the zygomatic arches, the cheeks become pale and flabby, the contours of the masseters distinguishable, the chin pointed, the neck wrinkled, the sterno-cleido-mastoidei muscles and larynx prominent, the ribs can be counted without being touched, and the vertebral column and bones of the pelvis are covered by an atrophic skin only.

A very peculiar phenomenon may be observed on the occiput. The superior border of the occipital bone shoves itself beneath the parietal bones, thus forming a step, the upper plane of which is formed by the parietal bones, and the lower by the occipital bone. Exceptionally the occipital glides over the parietal bones. A similar but less striking displacement takes place at the frontal bones, the superior borders of which slide beneath the parietal. The diminution of the cavity of the skull is caused by a decrease in the size of the brain, for this organ participates in the general atrophy, and, since it consists in greater part of fat, it must, therefore, also suffer a decided loss of this material. So far as I am aware, there is no quantitative chemical analysis of the brains of *atrophic* children to be found, it is only known that the brains of young children in general are poorer in fat than those of the adult; such an investigation is really a desirable one, and for which the Pædiatria should call upon pathological chemistry. If the bones of the cranium have once overridden each other, and cerebral atrophy has become superadded, an improvement is only to be looked for in the rarest in-

stances; the patients almost always waste away more and more, and invariably perish, although they may have had no diarrhoea for weeks, the stools, however, retain a putrid odor, and the appetite remains to the last. From this atrophy of the brain (to be hereafter considered under the heading of Hydrocephaloid Disease) a long train of cerebral symptoms results. We find in the abdominal integument one of the best indices as to the degree to which the atrophy has reached. If, pinched and raised into a fold, it remains for some time after the fingers are removed, the prognosis is always, and under all circumstances, to be regarded as most unfavorable; the prospect of recovery always improves in proportion to the rapidity with which a fold of the integument thus produced disappears.

In atrophic children with tympanitic abdomen—a condition which, in fact, is usually present in atrophy, as a result of enteritis folliculosa—small solitary tubercles of the size of pins' heads are seen upon the abdominal integument, united to each other by very fine cords, and only recognizable by the feel. These cords are not plugged-up veins, because veins, when the integument is so atrophied, and in such a superficial position, would appear bluish or black. They can only be obliterated veins, or, what is still more probable, lymphatic vessels—a supposition which may serve to explain the character of the small nodules.

**Treatment.**—Every thing that has been mentioned in connection with catarrhus intestinalis is applicable to the treatment of this disease, as an effect of which, the infiltration of the mesenteric glands may be regarded. As a rule, all methods of treatment are inefficacious. There is one remedy, however, from which I have seen some very striking, favorable effects, namely, mother's milk. Atrophied children, after four or even six months' disease, already at the brink of the grave, suffering from putrid diarrhoea, a thrush-covered tongue, and in incessant restlessness from pain, or tearing their faces with their long, lean fingers, when put to the breast of a mother, are changed as if by magic. At first they suck only for a few seconds, and then relapse again into their habitual restlessness, but, after a few days, nurse like healthy children, and sleep for several hours at a time; the evacuations become yellow, their odor normally sour; and they regain flesh and strength so rapidly that they can scarcely be recognized after a few weeks. Where the circumstances are such as to preclude the possibility of procuring a wet-nurse, the prognosis, as already said, is fere lethalis. In such cases I have several times succeeded in reducing the temperature of the skin by the use of cinchona, gr. j, twice daily. The atrophy also diminished, and, under an extremely cautious, laborious feeding, the children finally began to thrive. As

an after-treatment, R. mart. pomat., ten drops three times daily, is to be given for a long time. This treatment, however, generally fails, the temperature of the skin is diminished for only a short time, the patients sink little by little, till finally, often after many weeks of suffering, they are relieved by death.

(8.) **DYSENTERY—THE FLUX.**—In great epidemics of dysentery—such as are especially malignant in swampy regions and in the tropics—children under one year of age are almost totally exempt. A few instances are recorded, however, of women who, while suffering from flux, gave birth to children that immediately after birth perished of dysentery. Older children, particularly after the second dentition, are as liable to it as adults.

Sporadic dysentery, on the other hand, frequently occurs in infants, but, on account of its mild, almost harmless course, is not usually particularly watched.

**Symptoms.**—The symptoms of sporadic and epidemic dysentery may very properly be treated of together, it being only necessary to observe here that the sporadic form never exhibits the intense and dangerous character of the epidemic disease.

The best index of the condition of the intestinal mucous membrane is always obtained from a careful inspection and dissolution of the stools. Every stool which contains a glairy mucus, formed into lumps, indicates a morbid alteration of the mucous membrane of the large intestines, or, at least, of their follicular apparatus. With this glairy mucus, resembling granules of boiled starch, a few streaks of blood soon become associated, or the whole stool becomes uniformly bloody, according as the bleeding occurs near to or far from the anus. As this mucus increases, the proper fecal masses constantly grow less and less, and finally lumps of mucus, with only an admixture of feces, are evacuated. There is, generally, no great difficulty in recognizing the blood that has become mixed with the alvine discharges; if streaks and small lumps of blood are present, it will be apparent at a glance, and, even when the blood has been for a long time in contact with the mucus, a part of the blood and mucus will become thoroughly mixed with each other, and then they will give to the whole evacuation a pink or an actually red color. In fact, this discoloration alone suffices to convince us of the presence of blood, because no other substance giving this color occurs in the feces. For beginners, and in the interest of clinical instruction, I will add that, if doubt of its bloody origin occur, it may be easily decided by the microscope.

If ulcers form, which scarcely ever happens in sporadic flux, the evacuations assume a dirty-gray or grayish-red color, and a putrid odor, on account of sloughed mucous membrane, and large

quantities of pus discharged from the ulcers becoming mixed with them. The exfoliation of large patches of mucous membrane, said to have been frequently observed in tropical dysenteries, I have never observed in this country. Occasionally firmer lumps of loamy feces, wrapped up in purulent or bloody mucus, pass off, although the rest of the symptoms do not by any means indicate that the disease is about to be checked. These clayey lumps are, most probably, derived from some part of the small intestines not affected with dysentery. This condition does not by any means improve the prognosis. For immediately after the discharge of these feces, which deceptively indicate an amelioration of the disease, the previous state of the alvine evacuations reappears.

A red and a white flux, according as to whether blood is or is not mixed with the stools, has been spoken of—a classification which naturally dispenses with all scientific basis, for it is very possible, indeed, for a child to have the white flux on the first day, the red on the second, and the white on the third or fourth again. When improvement actually takes place, the discharges will first assume a fecal odor, subsequently the normal consistency, and the muco-purulent character gradually disappears. Round worms, when present, are invariably expelled with the dysenteric feces. At the invasion of the disease the stools have a fecal odor, and this odor returns when the child progresses toward recovery; at the climax of the complaint the normal odor has wholly disappeared, or it is sourish and unhealthy. In the epidemic flux, when pus and pieces of sloughed mucous membrane are ejected, the stools become intensely pungent and putrid, resembling sulphuretted hydrogen. Microscopical examination reveals mucous-corpuscles, epithelium-cells, blood-corpuscles, large aggregations of oil-globules, some particles of food, villi, and triple phosphates—all embedded in a molecular, finely-granular mass, whose chemical reaction is usually alkaline. Albumen may be demonstrated to be present by diluting and agitating the stools with distilled water, and then filtering the liquid, and subjecting it to the appropriate tests. The stools vary in number exceedingly. In the milder forms, four to eight; in the severer, twenty to thirty passages take place in the twenty-four hours, the number depending less upon the quantity to be evacuated, for that is often very slight, than upon the degree of tenesmus.

Abdominal pains and tenesmus are never absent; the pain is mostly paroxysmal, but, at the climax of epidemic dysentery, children moan unceasingly. Touching any part of the abdomen, near the navel, or over the course of the colon, produces pain. The tenesmus is very tormenting; the lower folds of the rectum are frequently seen to