

augmented by allowing them boiled and also raw fruits, grapes, apples, pears, etc.; next by a plentiful supply of cold water, and it is especially advisable to try to remedy the constipation by a change of diet, before aperient remedies, of whatever kind they may be, are resorted to. If no success has attended this simple method of subjugating the evil, one or two teaspoonfuls of *R. rhei aquosa* should be given, as it is always the best and least injurious. Calomel should never be resorted to for the mere purpose of promoting the stools, when no other indication for it exists, for the very reason that mercury cannot be cleared of the suspicion that it tends, in many cases, to retard the development of the child, and promotes caries of the teeth. A small suppository of common soap introduced into the rectum will frequently relieve the constipation. Clysters of cold water or of soap-water have the double effect of softening the hard fecal contents of the rectum, and, by consensual irritation, of stimulating the whole intestines into increased peristaltic action, and of augmenting the secretions thereof. But when the fecal masses are very compact, it will not be possible to employ clysters, for the water will flow out again even during the injection, and we have no other alternative but to remove them by mechanical means, by the aid of a hair-pin, scoop, or the like. Constipation accompanying febrile diseases, and that originating as an effect of acute hydrocephalus and of peritonitis, very seldom become objects of special treatment, and will be spoken of in the relative sections.

(2.) CATARRH OF THE GASTRIC MUCOUS MEMBRANE (*Catarrhus Ventriculi*).—Catarrh of the mucous membrane of the stomach, or gastritis catarrhalis, is met with in the autopsies of many children, who, during life, exhibited no signs whatever of disturbed digestion. When we bear in mind that a bright-red color of the gastric mucous membrane is a *physiological condition* in the new-born, it will not be possible to lay very great stress upon the frequently-described injections, and still more of the ecchymosis of that mucous membrane, especially as we have no guide whether any, and, if any, what symptoms are produced thereby. Only when a blennorrhœa of the gastric mucous membrane has developed itself, and the profusely-secreted mucus is vomited several times a day, are we justified, from a clinical point of view, to diagnose a gastric catarrh. The causes of this affection are as numerous as those which have been enumerated in the previous sections for dyspepsia, vomiting, flatulence, etc.

**Symptoms.**—The symptoms of such a gastric blennorrhœa are fixed, continuous stomach-ache, increased on pressure, permanent distention of the epigastric region, perceptibly increased temperature of the same, and an accumulation of gas within the stomach. Warm or

solid nutriment and warm drinks, introduced into the stomach, aggravate the pains; cold drinks, particularly cold milk, relieve them. True, the food is frequently thrown up, but upon that alone the diagnosis of gastric catarrh cannot be based; an emesis of pure, opaque, glairy, or greenish mucus, without much retching, must take place before or some hours after the meal. The nutrition of the child is not much interfered with at first, because, as has been already observed, the food is not regularly thrown up, and the intestinal mucous membrane is still capable of absorption. But in the course of time emaciation comes on. In the cadaver the gastric mucous membrane is found hypertrophied, covered with a thick layer of mucus, its upper surface uneven and warty, a condition that has been called *état mamelonné* by the French; but it is only necessary to observe here, that, before a mucous membrane can be called mammellonated, the contracted stomach should have been stretched out to its fullest capacity, for, in the strongly-contracted stomach, every mucous membrane, even the healthiest, will assume a warty appearance. The rest of the symptoms enumerated in text-books, those regarding the pulse, the general condition, the stools, the urine, etc., are not sufficiently characteristic to deserve a place here.

**Therapeutics.**—The chief object of the treatment is to regulate the diet, and nothing but cold milk should be allowed for several days. Against the profuse secretion of the mucus, nitrate of silver has proved to be a sovereign remedy. To small children under one year and up to two years of age, I give a solution containing nitrate of silver, gr. ss. to water  $\frac{3}{4}$  iij, without syrup, or any mucilaginous addition. To children several years old who are adepts at swallowing pills,  $\frac{1}{4}$  gr. nitrate of silver each will be found to act better than the solution. I recollect but a single instance, that of a boy eight years old, in whom I was unable to accomplish any satisfactory results with this method of treatment. For ten days he took four to six nitrate-of-silver pills without any effect, whereupon I ordered him five drops of creosote in five ounces of mucilaginous vehicle, and, to my great surprise, the vomiting of mucus was suddenly arrested by it. Nitrate of silver, *ceteris paribus*, will always be preferable to the creosote, owing to the unpleasant odor and disagreeable taste of the latter. Compare the treatment of vomiting, page 130.

(3.) TOXIC INFLAMMATION OF THE STOMACH.—All children are lickerish, and junket whenever they get a chance, and thus it not unfrequently happens that children from one to five years of age, especially in manufacturing cities, where a great deal of strong acids and caustic alkalies are used, hurriedly swallow large quantities of sulphuric or nitric acid, caustic alkali, caustic lime, common lye or car-

bonate of soda, and a considerable quantity may have already found its way into the stomach, before they become aware of their disastrous error. The discussion of the general effects of caustic poisons belongs to the forum of Toxicology; we will therefore limit ourselves to a description of the morbid changes of the stomach and intestines.

*Symptoms and Anatomico-pathological Characters.*—The state of the mouth is the surest index by which to judge of the lesions within the stomach. Its mucous membrane, from any concentrated caustic, is found converted into a whitish-gray mass, on the removal of which the submucous tissue is seen to be dark-red, and sometimes bleeds considerably. Only in case nitric acid has been swallowed will the mucous membrane be dyed yellow, and less softened than shrunken. If a large quantity and very concentrated caustic has been introduced into the mouth, the submucous tissue will also be implicated in the destruction, and, at the first sight, one may be led to believe that he has a diffused gangrene of the mouth before him, as in noma, for instance. A similar condition is found in the stomach. The milder degrees of cauterizations with weaker escharotics, or when such small quantities have been swallowed that, by becoming diluted with the gastric contents, they are barely capable of acting as escharotics, will hardly ever offer an opportunity for an anatomico-pathological examination, for the lethal termination takes place, if at all, at a much later period, but in most instances does not follow at all; in those cases that prove rapidly fatal the mucous membrane is found destroyed, in black shreds, the muscular and serous coats lax and usually perforated, and the contents of the stomach already escaped into the peritoneal cavity. Even the duodenum may be encroached upon by the caustic, but the morbid appearances of the bowels, in comparison with those of the stomach, are very slight. Death, by perforation of the stomach, happens less frequently in lickerish children than in suicides, who with premeditation swallow a large quantity of corrosive liquid, but gastric and œsophageal ulcers will frequently ensue (vide *Œsophagitis*, page 122), which heal but very slowly and with hard cicatrices.

The symptoms accompanying these accidents vary according to the quantity and strength of the escharotic, according to the depth it has penetrated into the stomach, and according to the quantity of liquid food or fluids present in the stomach at the time. Usually, immediately upon the introduction of the caustic into the mouth, retching and a spasmodic closure of the œsophagus take place, as a result of which it does not enter the stomach at all, but is expelled again by the mouth. The case is far worse when the stomach has also become corroded. The patients then lie in the greatest suffering, and

stir very little, because the intense gastric pains become still more aggravated thereby, and a bloody saliva, sometimes mixed with black vomited lumps, flows constantly from the mouth. The patients are completely aphonic; every act of deglutition induces the renewal of violent pains, or even syncope and convulsions; a cold perspiration covers the face, the eyes roll anxiously about, sink deep in the orbits, and are surrounded by a wide dark circle. The pulse is small, scarcely perceptible, and the surface of the body cyanotic. If the escharotic has come in contact with the alimentary canal, bloody diarrhoea will also supervene. If the phenomena have attained the above high degree of severity, death soon takes place, generally from perforation of the stomach; and, even if the latter does not happen, it apparently occurs in consequence of paralysis of the pneumogastric nerve. When death does not ensue in the first few days, recovery usually takes place after months of suffering, attended by alarming emaciation. Abnormal agglutinations, changes in form, and formations of diverticula or strictures, may nevertheless be left behind for life.

*Therapeutics.*—The treatment in poisoning with caustic or alkaline carbonates is to neutralize them as quickly as possible by the aid of diluted vegetable acids, i. e., vinegar, lemon-juice, or the like, or to saponify them by administering some fatty substance, such as almond or olive oil, which should be administered in cupfuls. Either of these agents may be found in every house, and therefore there is no necessity whatever to previously administer mucilaginous substances, the effects of which are by no means certain; still less are emetics indicated, since spontaneous vomiting always occurs without them, besides which the violent contractions of the stomach, induced by emetics, enhance the ultimate occurrence of perforation.

Corrosive acids likewise require to be neutralized as rapidly as possible, and for this purpose magnesia usta is best adapted; but, as this article is not often found in dwellings, it has to be sent for; consequently, a certain amount of time is lost, which may cost the child its life; it is best, therefore, to administer soap-water or scraped chalk: in the use of these, however, a large amount of carbonic acid is generated, which, before being expelled by eructations, may induce a dangerous distention of the stomach. Ashes and common lye should only be used with the greatest precautions, and greatly diluted, otherwise they may themselves produce further erosion. If the threatening symptoms have been palliated by the means here prescribed, opium will then be the best and most rational remedy to assuage the pain and arrest the peristaltic action of the stomach. As many drops, less one, of laudanum are to be given as there are years in the age of the child, and this dose should be repeated every two hours

till rest and slight narcotism ensue. In these accidents cow's milk has proved to be the best nutriment, upon which even older children may subsist for many weeks; at first it may be given cold, and afterward to suit the taste.

(4.) THE PERFORATING ULCER OF THE STOMACH (*Ulcus ventriculi rotundum sive perforans*).—The perforating ulcer of the stomach is of extremely rare occurrence in children under ten years of age; on the other hand, it frequently becomes developed in chlorotic girls before the commencement of puberty. Consequently, we have not strictly to treat of a disease of childhood; we therefore only mention it for the purpose of enabling one to exclude it in a doubtful diagnosis of a gastric affection in a child under ten years of age. But when older children, especially girls, suffer from it, then its symptoms, pathological anatomy, termination, and treatment, differ in no respect from what is observed in the adult. We therefore refer the reader to the classical works of *Rokitansky*, *Cruveilhier*, and *Bamberger*, in whose work on "Diseases of the Chylopoëtic System" an exhaustive description of this condition may be found.

(5.) HÆMORRHAGIC EROSIONS OF THE GASTRIC MUCOUS MEMBRANE.—In many autopsies of children, who have died from the most dissimilar diseases, a varying number of minute extravasations of blood are seen upon the gastric mucous membrane. They appear either as round spots, from the size of a millet-seed to that of a pea, or as long, narrow streaks, and are situated upon the most elevated portions of the congested mucous membrane. At these points the mucous membrane is either of a livid color and bloody in appearance, or, if the disease has been of some duration, it will present the shallow depressions resulting from loss of substance. Brownish-red fibrinous flakes generally cover such spots, and the lesions described are only brought into view after they have been removed. I have never met with an instance where the submucous and muscular coats were involved in the erosion.

These erosions are most frequent and numerous in the pyloric region. Whether they originated in the glands of the gastric mucous membrane, on account of which *Cruveilhier* would have this affection denominated *gastritis folliculosa*, it is impossible to decide, in the cadaver, as the ecchymosis does not limit itself to single mucous follicles, but is diffused over large surfaces in round or oblong patches.

The symptoms conformable with the fact previously stated, that the erosions may be found in the stomachs of children who have died from the most dissimilar diseases, are very unreliable and insufficient. They are frequently met with in tuberculous and atrophic children. They also often occur in children who have been treated

with antim. et potass. tart. and other emetics, as well as drastic purgatives, or who, toward the termination of their last sickness, suffered from spontaneous vomiting. On the whole, however, it would be too presumptuous to say that they might not be found in children in whom none of these conditions had existed, and who die from such different diseases as lobular or lobar pneumonia, pyæmia, etc., so that it is difficult to mention any symptoms of this *post-mortem* condition which would indicate its existence during life; consequently this affection has only an anatomo-pathological interest.

## APPENDIX.

SOFTENING OF THE STOMACH (*Gastromalacia*).—Softening of the stomach is not a disease, but only a *post-mortem* condition; but, since many authors and experienced physicians still doubt its *post-mortem* origin, the explanation of the condition will be given, further on, more minutely than its simplicity in reality seems to require.

Before the appearance of *Jäger's* article, softening of the stomach was regarded by all as a *post-mortem* condition, a *self-digestion* of the stomach occurring after death; in this sense it was that *Morgagni* and *Hunter*, later *Armstrong*, *Treviranus*, and *Carswell*, wrote on it. Then *Jäger* came forward, in 1811, with his discovery of a *new disease, softening of the stomach*, which he described in several articles published in *Hufeland's Journal of Practical Medicine*. The symptoms of the new disease, as *Kreuser* afterward very correctly pointed out, were identical with those of common cholera infantum. It first manifested itself by fever, irregular breathing, pain in the abdomen, intense thirst, anorexia, vomiting, and diarrhœa, to which, in a very short time, extreme emaciation, constant restlessness and sleeplessness, coldness of the face and extremities, and death, almost invariably succeed.

It was not long, however, before it was found that this group of symptoms was not adapted to all gastromalaciæ discovered at *post-mortem* examinations, and the affection was therefore divided into two forms, an acute and chronic. For the acute the symptoms just described were retained as correct, death following on the seventh or eighth day; the transition of the acute into the chronic form was said to take place as early as the fourth day. This latter form, however, it was claimed, in addition, might be developed by symptoms which at first were very slight, the subjects at last apparently perishing from atrophy. As almost every child in the course of its life has had one or more attacks of vomiting and diarrhœa, it was therefore very convenient, as often as this *post-mortem* softening of the stomach

was found, to constitute the chronic form. That in a large number of children, who died from acute summer complaint, the so-called cholera nostras, no trace whatever of gastromalacia could be found, was ignored for a long time. Later on, however, doubts, as to whether there was any connection between the pathological condition and the artificial complication of symptoms, increased to such a degree that they finally received due attention. Among these, first of all, was *Virchow* and his pupils; next *Engel*, *Bednar*, *Oppolzer*, *Bamberger*, *W. King*, and *Trousseau*. These were, and in part are still, opposed by a number of German and French physicians, who, according to *Bamberger*, may be classified in the following groups: *Louis*, *Lallemand*, *Billard*, *Richter*, and *Nagel*, regard the softening as a product of inflammation. *Andral*, *Cruveilhier*, *Berndt*, and *Winter*, believe it originates from an altered condition of the secretions, as well as from irritation and congestion. *Jäger*, *Camerer*, *Authenrieth*, *Schönlein*, *Naumann*, *Most*, *Teuffel*, and others, attribute it to an altered state of the nervous system, a neuroplogosis, or neuroparalysis. Even *Rokitansky*—at least in the older editions of his *Pathological Anatomy*—considered this as probable, and, in addition, assumed for another list of cases degeneration of a dyscrasic nature. *Canstatt* seeks for the cause in an altered state of the gastric secretion, and *Eismann* even attributes it to a peculiar miasma.

Lastly, there are a large number of physicians who would side with both parties, for they grant that the softening of the stomach was commenced during life, but claim that it reaches the highest degree, and even perforation, only after death. To these *Chaussier*, *Meckel*, and, in part also, *Andral*, belong.

*Elsässer*, in a monograph published in 1846, threw the most light into this complicated dispute. In it he demonstrated why, and under what conditions, the softening takes place in one cadaver and not in another. But before we enter more minutely upon the reasons for the cadaveric nature of the gastromalacia, it would be best to describe its anatomico-pathological condition.

By gastromalacia we understand that morbid alteration of the stomach, in which its coats are softened or destroyed either by an ulcerative process or by the formation of pseudo-plasma, independently of any inflammatory action whatever. The seat of these alterations, in the great majority of cases, is the blind sac or fundus, and, by preference, its posterior wall. Why just these parts should be most frequently attacked is manifest from the dorsal decubitus in which the infantile cadavers are always placed. The mucous membrane is always the first of the tissues attacked; not till this mem-

brane is destroyed does the process invade the muscular and then the serous coat. These conditions may be readily and clearly demonstrated at the points of transition, from the softened parts of the stomach to those which have remained uninjured.

Two kinds of softening have also been distinguished, a *gelatiniform* and a *black*. In the gelatinous form the affected places are changed to a yellowish-green, jelly-like tissue, and in the black into dark brown or blackish. The dark or bright color depends entirely upon the larger or smaller quantity of blood in the stomach at the time death took place. The more vascular the gastric coats are, the darker will the softened places appear. Sometimes the softening limits itself so precisely to the mucous membrane and submucous tissue, that the muscular coat appears as if exposed by the anatomist; but when this coat also is destroyed, then the serous coat, the only one intact, assumes a gauze-like appearance, and readily tears in the attempt at removing the stomach from the abdomen. In other instances the stomach has ruptured before the abdomen is opened, and its contents escaped into the peritoneal cavity. But it should here be borne in mind that no reaction of the peritonæum, congestion, or purulent effusions, have ever been found in such perforated stomachs.

No well-defined limits of the softened parts are ever noticed, as they gradually become superficial and lost in the normal mucous membrane without any inflammatory or even congestive demarcation. As regards the contents of the stomach, *Elsässer* was the first to call attention to the fact that a softened stomach *is never* found empty—that is, filled only with mucus, and that the liquid food always present has a strong acid reaction. In the majority of softened stomachs the contents consist of curdled milk. Often those organs adjacent to the stomach become implicated in the softening without perforation having taken place. The spleen, the left half of the liver, the diaphragm and cesophagus, may be affected with the softening; and thus if the latter, from rough handling of the corpse, has burst, which often occurs, the liquid food will be found to have escaped into the left pleural cavity. Even softening of the pulmonary tissues and liquid food in the bronchi have been observed. This will have to be explained by the supposition that, while the infantile corpse was moved about or raised for the purpose of cleaning, some of the gastric contents flowed back into the pharynx, and then through the glottis down into the bronchi, where this material, causing softening, begins to act the same as in the stomach. Moreover, in most cases, morbid changes are found in the rest of the organs sufficient to explain the cause of death. The following reasons may now be ad-

vanced for the *post-mortem* nature of the gastromalacia and for its non-existence during life:

(1.) Softening of the stomach always affects the most dependent part of that viscus, in which, according to the laws of gravity, its contents accumulate; therefore, under ordinary circumstances, in the dorsal decubitus of a corpse, the fundus, and by preference its posterior parietes, are softened. That the softening of the mucous membrane always occurs only at those places where the liquid food has been in contact with them for some time, may be easily demonstrated in animals killed immediately after being fed with some fermenting substance, and the cadavers placed in different postures, upon the back, upon the belly, upon the right side, or hung up. *Elsässer* has also applied this test to the infantile cadaver, having placed one, immediately after death, upon the right side for twenty-two hours, and he found the fundus intact, but the right side of the stomach, the half toward the pylorus, in a softened state. The mucous membrane at this portion of the stomach was wholly converted into a muco-gelatinous mass, the muscular coat partially so; the contents of the stomach consisted of a liquid gray material, mixed with curdled milk, of the odor of whey, and having an acid reaction. These experiments show conclusively that gastromalacia does not exist at the moment of death, and is only developed when peculiar gastric contents in the cadaver come in contact with the walls of the stomach. They show further that the surfaces of the stomach, in contact with its contents, correspond to the dimensions of the softened portions. In a body, which, until the *post-mortem* examination, has laid undisturbed, the softening of the stomach will never be found to extend beyond the space embraced by the liquid food.

(2.) Direct experiments, particularly those instituted by *Elsässer*, and after him repeated and confirmed by many others, have sufficed to prove that the healthy stomach removed from a cadaver is not only capable of undergoing softening in any acids, but also in any fermentable substances, such as milk and sugar, so long as it maintains the normal temperature of the body.

(3.) Direct experiments on dogs and rabbits have proven that when perfectly-healthy animals, fed on milk or substances containing vegetable acids, are killed during the process of digestion, and allowed to remain for twenty-four hours in a proper temperature, softening in the highest degree and perforation of the stomach take place. In rabbits an almost total disappearance of the stomach is sometimes noticed under these circumstances, nothing remaining of the destroyed organ but loose mucus adherent to the still remaining portions of food. This condition is frequently met with in the *post-*

*mortem* examination of suicides, of the executed, and, in many instances, of sudden death.

Softening of the stomach, then, may be artificially induced outside of the body, in most animals, by a very simple procedure.

(4.) Children attacked by cholera nostras, who, according to the alleged identity of the symptoms of cholera nostras with those of gastromalacia, suffer also from the latter, recover frequently, and immediately thereafter may die from another disease. No trace, however, of a *cured* gastromalacia has ever yet been found in the infantile cadaver; and yet such a destruction as occurs even in the mildest grade would probably give rise to marked cicatrices or contractions of the affected parts. Nor, as has already been stated, have any traces of reaction or demarcation ever been found in a softened stomach, such as otherwise occur in all vital processes.

(5.) The symptoms which should characterize softening of the stomach during life are variously given by authors. Most of them, in fact, describe the symptoms of cholera nostras, others observe cerebral compression or cerebral irritation, and still others only the usual atrophy, out of which the chronic softening of the stomach is then construed. Moreover, the symptoms of cholera nostras do not harmonize with the pathological changes of gastromalacia. It is very improbable that a stomach affected with softening would be constantly disposed to such active contractions as is necessary to produce the act of vomiting. And if the children were affected with softening of the stomach during life, and should vomit, then pure *blood* ought certainly to be thrown up, for the arteries of the softened parts are *not* obliterated, as is known to all anatomists acquainted with minute injections.

(6.) The nervous system has been called upon for assistance in various ways by the vitalists, as those physicians are termed who regard the softening of the stomach as a process which occurred during life, to explain their theory. The doctrine of semi-paralysis of the vagus nerve seemed adapted to explain all the symptoms, particularly the absence of pain and reaction, sustained as it was by the frequent occurrence of softening of the stomach in cerebral and pulmonary affections. *Elsässer*, on the contrary, very appropriately observes that pathological changes within the cranium, like softening of the stomach, occur frequently in children, and their coincidence will continue to be suspected as accidental, until extensive statistical tables shall have shown how often cerebral affections occur in children independently of gastromalacia, how often gastromalacia has been found by itself, and how often both together. According to the statistics hitherto collected, *Elsässer* denies the

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