

blennorrhœa kept within moderate bounds. By constant, scrupulous cleansing, an astringent eye-wash, and, when the secretion lasts longer, by the inunction of blue ointment upon the forehead, the cornea will be kept from perforation. Warty excrescences in the palpebral sinuses, where the blennorrhœa is nurtured for a very long time, are best removed with the scissors. If perforation and prolapse of the iris have taken place, staphyloma at least may be prevented by energetic cauterization of the cornea, and constant pressure. In circumscribed central leucoma, the sight at a later period may be infinitely improved by the formation of an artificial pupil. If phthisis bulbi (atrophy of the globe) has occurred, the deformity may be mitigated by an imitation eye, in the perfection of which, art of late has made such extensive progress.

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CHAPTER II.

DISEASES OF THE DIGESTIVE APPARATUS.

A.—MOUTH.

(1.) HARELIP AND CLEFT PALATE (*Labium Leporinum—Palatum Fissum*).—Harelip is a congenital splitting of the upper lip; cleft palate, a congenital fissure of the hard palate. In order to thoroughly comprehend these malformations, it is necessary to revert to the history of the fetal development.

As long as the two superior maxillæ remain ununited in the median line, with the intermaxillary bone that has originated from the central process of the frontal bone, to form the hard palate, so long will the mouth and nasal cavities stand in open communication with each other.

Now, in cleft palate, this union is arrested on one side; in harelip, a union between the bones does indeed take place, but seems to have been retarded, on account of which, the upper lip, which is formed primarily of two lateral and one central piece, does not become united; the fissure of the upper lip, corresponding to the one in which the union has been arrested, becomes skinned over like the borders of the lips, and union is subsequently altogether impossible. From these remarks, it will be readily perceived why harelip never occurs in the centre of the lip, but always on one side: the chasm invariably terminates in one or the other nasal cavity.

We have various grades of fissures, according to the time in which, during fetal life, this arrest of development has taken place.

The cleft of the hard palate may be so wide as to easily admit a finger, and all the infundibuli may be inspected without any difficulty. In this intense form, scarcely any upper lip is present, and one or both nasal orifices are immensely distended. Or the intermaxillary bone, covered with some skin, projects forward, and forms a knob under the nose. At each side of this bulb, fissures of the lip run into the nasal orifices. Or there is only a narrow fissure in the hard palate, which will barely admit the back of a knife, and, corresponding with it, the cleft in the upper lip is also less grave. Or both upper jaws are perfectly normally formed, and there is only a narrow fissure in the upper lip, the margins of which almost touch each other, and either extend clear into one of the nasal openings, or only half way to it.

There are families many members of which are deformed by harelip, so that we are compelled to assume a kind of predisposition or inheritability.

The effects of this evil are:

(1.) *Difficult Sucking, particularly in Cleft Palate*.—The act of sucking consists in the lips locking themselves hermetically around the nipple; the air in the mouth becomes rarefied by the dilatation of the thorax, and the milk is in this manner pumped out from the breasts. But, when the continuity of the lips is broken, they are unable to firmly and perfectly adapt themselves around the nipple, and infants are then incapable of exhausting the milk. When the hard palate is not simultaneously fissured, children will grasp the nipple between the jaws, instead of the lips, and in that way suck with tolerable ease. But when cleft palate is also present, then they are almost altogether unable to nurse; the overflowing breasts do indeed discharge some milk into the mouth, but the greater part flows out again at the nose; this is best prevented by holding the head of the child elevated.

(2.) *Obliquity in the Position of the Teeth*.—If the operation is not performed before the eruption of the teeth, or if it has been unsuccessful, the teeth of that part of the jaw that is not covered by lip will grow crooked, outwardly instead of downward; this is especially true when cleft palate also exists, which gives to the face a hideous disfigurement.

(3.) *Indistinct Speech*.—Some letters, to the articulation of which the upper lip is indispensably necessary, principally B, M, P, W, are but indistinctly pronounced in harelip, and are altogether impossible of articulation in cleft palate. In the latter case, all the other consonants in addition lose in distinctness on account of the defect of the palate.

BIBLIOTECA  
FAC. MED. U. M. P.

**Treatment.**—Nothing but an operation can remedy this deformity. As regards the time when it is to be performed, much has already been written and disputed. If the nutrition of the child is much interfered with, if it does not learn in the first few weeks to suck and swallow properly, then of course it will remain backward in its development, and the operation must be performed as soon as possible. But, when this is not the case, it is best to wait until the child has passed the fourth month. At all events, however, the operation should be performed before the eruption of the teeth, for, as soon as dentition has once begun, children are oftener subject to sickness, and on that account the result often proves a failure. Moreover, children more than six months old begin to use their hands, with which they may tear down the plaster after the operation, or entangle them among the points of the pins, and thus frustrate its success.

Before the operation, the child is to be kept awake for several hours, in order that it may subsequently fall into a deeper sleep than usual; and it is also to be nursed, so that thirst or hunger may not rouse it too soon. It is best to wrap the entire body up to the neck in a sheet, and then place it in the lap of an assistant. Nothing more is necessary for the operation than a sharp tenaculum, a strong sharp scissors, the sewing apparatus, and a few strips of adhesive plaster. A second assistant now seizes a part of the split lip between his thumb and index-finger and compresses the vessels. The operator, seated opposite the child, seizes hold of the border of the lip with the tenaculum where it passes over into the fissure upwardly, pushes the scissors into the slit, and with one cut removes the entire edge. The same manoeuvres are repeated on the other side. After the edges have been adjusted, two or three needles, the lower ones first, are introduced, and a few turns of the ligature taken around each one of them.

In wide-cleft palates, where scarcely any upper lip exists, the cheeks will have to be separated from the bone very far backward, in order to obtain a sufficient amount of distensible substance. All projecting teeth and bony outgrowths must, under all circumstances, be removed before the operation, and the wounds should first be allowed to cicatrize. The ligatures should not be drawn too tightly, for the circulation in the margins of the wound will thereby suffer severely, and an insufficient amount of plastic material will be thrown out. In my first operation for harelip, I drew the ligatures very tightly, in order to adapt the edges very accurately. In twenty-four hours the child was seized with trismus and tetanus, and the needles, of course, had to be removed as quickly as possible. The trismus then disappeared, but the success of the operation was frustrated.

After from forty-eight to sixty hours, the needles, which should have been previously brushed over with a little oil, may be removed; the twisted suture may remain adherent for some time longer. In double harelip, with large central piece, an attempt should be made to save it. In cleft palate, where frequently one border of the notch is shorter than its fellow, a curved incision should be made on the shorter one, by which the borders of the wound will become equal in length.

Even when the operation has been entirely successful, in the course of time, a cicatricial contraction and a visible notching of the upper lip result. The success of this operation is of the utmost importance for the future shaping of the cleft palate. The united upper lip then constantly acts as a mild truss upon the fissured upper jaws, approximates them more and more to each other, till they finally touch, when the mucous membrane, by mild cauterization, or by baring the edges with a knife, may be brought to a union.

(2.) **CONSTRICION OF THE MOUTH**—*Microstoma* (from *μικρός*, small, and *στόμα*, mouth).—An exceedingly rare affection. Some children come into the world either with a very small mouth or with completely united lips, in which latter case it is of itself understood that an operation for the formation of the mouth must be undertaken in the very first hours of life. A more frequent occurrence is contraction of the mouth from syphilitic mucous patches, and chancres. The cicatrices contract more and more, till, finally, it is impossible to introduce a small spoon, or even a tube. If the syphilis has been eradicated from the system by a mercurial treatment, the formation of the mouth may be undertaken according to *Diffenbach's* method. A myrtle-leaf-like piece of skin is excised from the cicatrix, at both sides of the constricted mouth, without injuring the mucous membrane, thus forming the future angles of the mouth; next the mucous membrane is cut through with the scissors clear to the angles, is lapped over the edges of the wound, and united to the outer border by sutures. If the subjects are not marasmic, which, however, is their usual lot after they have surmounted syphilis, the operation will readily succeed. In the contrary case, the mucous membrane will not heal, but becomes covered with an aphthous membrane, and the patients perish in an atrophic state.

(3.) **IMPERFECT DEVELOPMENT OF THE TONGUE** (*Defectus Linguae*).—Instead of the normal oval form, the tongue occasionally displays an indentation at the apex, or even a more extensive fissure. Complete splitting of the tongue, where two movable tubercles or bands are seen at the back of the mouth, is very rarely observed. Children thus affected, according to *Bednar*, are able to cry, and the sense of taste is said to be present. According to embryology,

BIBLIOTECA  
FARMACIA  
MILANO

this malformation is explainable in the following manner: The development of the tongue proceeds from the first visceral arch. When the bulbous ends of the visceral arch meet in the median line, and become united to each other, a small tubercle is seen to develop itself on the lower border of the posterior surface of the first gill-arch, at the place of union of the two halves, which at first has a triangular, later an oval form, and gradually becomes developed into an anteriorly-curved, fleshy cone (the tongue). But, if this union of the visceral arch did not take place perfectly, and at the right time, that fleshy cone will remain divided, and, as an effect thereof, is retarded in its general development.

(4.) HYPERTROPHY AND PROLAPSE OF THE TONGUE (*Prolapsus Linguae*).—The tip of the tongue only is seen protruding beyond the lips at birth; the protruding piece, however, if nothing is done, will increase in size from day to day. Such children are unable to suck, and also hindered in swallowing, for the tongue not only hypertrophies anteriorly, but also in width and thickness. This enlargement of the tongue is usually combined with cretinism. When the dentition period arrives, the incisors are prevented from assuming their perpendicular position, and are directed obliquely forward. The constant pressure of the teeth produces an intense infiltration of the tongue: it ulcerates, becomes furrowed, the saliva constantly flows down over it, undergoes decomposition, and diffuses a disgusting, sour, rancid, fatty smell. In cases of many years' duration, the inferior maxilla forms a gutter, in which the ulcerated or dry tongue lies. The lower lip becomes everted, and the acquisition of distinct speech is wholly impossible. This condition is also met with in children well-developed in other respects, who have frequently suffered from convulsions, by which a weakness or partial paralysis of some of the muscles of the tongue may remain.

**Treatment.**—If the evil is recent, and the tongue reducible, the cure is soon effected by dusting powdered alum on the protruded part, or painting it with tr. amara. But, when the tongue cannot be reduced in this manner, and the mucous membrane is already ulcerated and fissured, the projecting piece will have to be removed by a surgical operation. Hitherto, the ligature or knife was employed in this operation; in most instances it is now performed with the *écraseur*, but most quickly and elegantly with the galvano-caustic apparatus.

(5.) ABNORMAL ADHESIONS OF THE TONGUE (*Adhæsió Linguae*).—There are cases in which the frænum is short, and yet inserted very far anteriorly at the tip of the tongue, by which that organ is much hindered in its motions, especially in its protrusions, and in sucking.

Tubercles in and hypertrophies of the frænum also occasionally occur, and exercise the same effect upon the tongue. Fræni, which are so constructed, must be severed by the snip of a scissors, if the sucking has actually been interfered with; this, however, is usually not the case. The frænum is divided hundreds of times where it is once really indicated. But, as this operation, when performed by a steady hand, is totally devoid of harm, it is therefore not necessary to look so strictly for the indications, especially if any comfort can thereby be conferred upon the patients. This little operation is performed in the following manner: The head of the child, facing the window, is held by some person, while the surgeon pushes the index-finger of his left hand under the tongue, close by the frænum, makes the latter a little tense, and cuts it through with a curved Cooper's scissors as far as it is membranous. The hæmorrhage soon ceases.

But, in addition to this shortening of the frænum, there also occurs an actual union of the whole lower surface of the tongue on all sides with the floor of the mouth, either congenital, as a continuation of the embryonic union of the tongue with the floor of the mouth, of which the normal superfluity of the folds of mucous membrane on both sides of the frænulum represents the so-called *plica fimbriata*, or acquired through syphilitic or mercurial ulcerations. Fortunately, this is a tolerably rare occurrence. The separation of the entire tongue with the knife is a very bloody operation, and often leads to no satisfactory results, if the after-treatment, consisting in the constant introduction of pledgets of lint, and frequent passive motion of the tongue, is not assiduously carried out. The galvano-caustic promises better results.

(6.) RANULA.—By ranula, frog-swelling, we understand a cystic tumor with fluid contents, found beneath the tongue on the floor of the mouth. It occurs on one or both sides of the frænulum linguæ, its size varies between that of a pea and a pigeon's egg; in the latter case, it may also be felt externally beneath the chin. The mucous membrane covering it is often so atrophied that the walls of the cyst lie freely exposed. In other cases, the tumor lies much deeper on the anterior and lateral parts of the neck under the mylohyoid muscle. The effects of this evil vary according to its size. So long as the tumor is not larger than a pea, it gives rise to no phenomenon. But, as it increases in size, it compresses the tongue against the hard palate, and then sucking, swallowing, and breathing, are rendered difficult. In the most intense form of this evil, attacks of suffocation ensue which have some resemblance to those of croup. It is generally supposed that this affection can only be cured by a surgical

BIBLIOTECA  
MUSEI HIST. NAT.

operation; but a spontaneous cure may also take place by suppurative degeneration of the cyst and its adjacent structures; of this, the following case taught me:

A mother rushed breathless into my office, with a boy one and a half years old in her arms. She related that he had always been well, but of late had a peculiar rattling in the throat during sleep, and, for the last eight days, attacks of suffocation, which, according to her ideas, had some connection with the dentition, because he was suffering from profuse ptyalism, and often put his hand into the mouth. While the woman was making these statements, I commenced to examine the child. The forehead was hot, the pulse very rapid, the respirations loud, like those of croup, the expression of the face anxious and suffering. As I introduced my finger into the mouth, for the purpose of examining the pharynx and tonsils, he was seized with a sudden fit of choking, and, as I, on that account, depressed the tongue, I felt something burst, and the size of the tongue instantly decreased. At the same time, a tolerably large quantity of muco-purulent fluid flowed alongside of my hand from the floor of the mouth, which had its source in the ruptured cyst beneath the tongue. I thoroughly cauterized the collapsed cyst with lunar caustic, and it became converted into an obstinate ulcer, which healed, only after many months, with a white cicatrix.

Various theories are entertained in regard to the nature of ranula. Aside from the somewhat too keen theory of old *Paré*, who considered it "as cold, moist, gelatinous matter derived from the brain, and transplanted to the tongue," it is looked upon by some as a cystic swelling of unknown origin; while others regard it as an occlusion, and subsequent distention of the duct of the submaxillary gland, the ductus Whartonianus. This latter theory, suggested by *Munincks*, and adopted by many others, has too serious grounds against it to retain any further value. *A priori* reasoning would favor this supposition; it finds a justifiable analogy in the dacryocystoblennostritis, but chemical investigations have shown that the fluid of the ranula is not saliva, for albumen is found in it, which does not exist in saliva, while rhodium-kali, characteristic of the latter, is here totally absent. The reply, that the chemical synthesis may not be able to produce the exact proportions, because the saliva, long confined, may take up new chemical bodies, and, by exosmosis, give off primitive ones, is made invalid by the anatomical knife. According to *Hyrtl*, ranula has already been found near the healthy undilated salivary duct. Ranula, consequently, is no dilated ductus Whartonianus, but a cyst; and, since, according to *Fleischmann*, a

mucous bursa exists under the tongue, it is probably a dropsical mucous bursa, or ganglion.

The prognosis, according to these anatomical conditions, and also in conformity with experience, is not unfavorable, chiefly because the diseased parts are within easy reach.

**Treatment.**—It consists in the removal of the anterior part of the cyst, and frequently-repeated cauterizations of the opened cavity with a solid stick of nitrate of silver. A simple incision into the cyst and evacuation of its contents do not answer, because the cyst is very prone to close up again; this is still more promoted by the pressure of the superlying tongue. A very torpid ulcer results from the cavity that is thus exposed, which does not close up until it has been repeatedly and intensely cauterized.

(7.) CATARRHAL INFLAMMATION OF THE MUCOUS MEMBRANE OF THE MOUTH (*Stomatitis Catarrhalis*). **Symptoms.**—By catarrhal stomatitis are meant redness and augmented secretion of the mucous membrane of the mouth. On those places of the mucous membrane which have a feeble and rich substratum of connective tissue, the redness attains to a much higher degree than on those which lie directly over the bone, for example, on the hard palate, where it is generally but slightly increased. It is most intense on the tongue, which has the appearance as if it were covered over by a thick coating of raspberry syrup. When the process lasts long, the tongue becomes covered with a white fur. In fact, even œdema of the mucous membrane supervenes here; it is, however, so slight, that it produces no change in the form of the cheek and lips, as is the case, for instance, in stomacace.

The pain is here very distinctly marked. The patients suck unwillingly; partake on the whole of but very little, and only cold nutriment, and do not allow their mouths to be felt with the finger. As this stomatitis catarrhalis is but very seldom idiopathic, and generally the accompaniment of other, in greater part febrile processes, it is difficult to determine its influence upon the general state of the system. Nervous children are also feverish in simple stomatitis, although unaffected by any other disease. When the inflammation of the mucous membrane of the mouth extends over the larynx, nasal passages, the Eustachian tube, and tympanum, it produces the well-known phenomena of catarrhal laryngitis, coryza, catarrh of the Eustachian tube and of the tympanum, any one of which suffices to induce febrile excitement. The pain, during nursing and drinking, at times is so great, that children will partake of scarcely any nutriment for days; nutrition and development are thus totally interfered with.

The secretion of such a morbidly-changed mucous membrane is

always augmented, the saliva constantly flows out at the corners of the mouth, corrodes them, reddens the chin, and soaks through the garments. This saliva does indeed smell somewhat acid, and reacts also feebly acid; it never, however, has that disgusting odor which is perceived in actual suppurations of the mucous membrane.

If the redness and painfulness have existed for some time, and the cause still continues, clear, minute water-vesicles, like true exudations, will rise upon the tongue, gums, mucous membrane of the lips and cheeks, which in appearance and course have many similarities to herpes labialis. They burst very soon, and leave behind them small, flat ulcers, with yellowish-white bases, which, in the first few days, increase in every direction, become confluent, and thus present tolerably extensive ulcerated surfaces, especially on the edges of the tongue and on the mucous membrane of the lips—stomatitis ulcerosa.—These minute vesicles, like almost all diseases of the mouth, have been called "aphthæ," a term that has produced so much confusion, in the description of the diseases of the mouth, that it seems advisable to discard it altogether.

After these ulcers have continued to increase in size for several days, and produced severe pain when touched, the yellowish color of their bases disappears; they become red, and covered as it seems directly with epithelium; at any rate, the recovery takes place so rapidly, often in two or three days, that a cure by cicatrization, and contraction, is not supposable.

*These ulcers never diffuse any particular odor.* The breath of those affected with it smells only slightly acidulous, never nauseating, as in stomacæ.

The most common *cause* is the eruption of the teeth. During this process stomatitis occurs so regularly, that it must be regarded as physiological. A further frequent cause is to be found in the sugar-teat with its fermenting contents. In older children, too hot or too cold nutriment, carious teeth, spiced, irritating victuals, in some children antimonial and iodine preparations, may also give rise to this affection. It also occurs in small epidemics, chiefly in summer, caused perhaps by the immoderate indulgence in sour fruits; and, in addition, is also the accompaniment of many febrile diseases, especially of the acute exanthemata.

**Treatment.**—The treatment is extremely simple. The causes, the sugar-teat, etc., are removed as well as possible, the chest is protected against getting wet by a piece of oil-silk which is secured under the jacket, and the infants are only allowed to drink cow's milk with water.

It is advisable, on account of the profusely secreted saliva rapidly

becoming sour, to cleanse the mouth every hour with a feebly alkaline solution; for instance, borax ℥j, to water ℥j. The painful ulcers may be relieved for many hours, and even permanently, by cauterizing them with the solid nitrate of silver. In idiopathic stomatitis spontaneous recovery takes place in eight, at the longest fourteen days. Symptomatic stomatitis in febrile diseases is not usually a subject of special treatment.

(8.) DIPHThERITIS OF THE MOUTH (from *διφθέρα*, skin, and *itis*).—By diphtheritis or diphtheria, angina membranacea, angina couenneuse of the French, is understood an acute general affection, the most striking symptoms of which consist in an *extensive formation of membranes on the posterior parts of the mouth.*

Historical investigations have shown that the disease is by no means new, and that it was already known to *Aretæus* (second half of the first century A. D.). There are also descriptions extant of epidemics in Holland (fourth century), in Paris (sixteenth century), in Spain (seventeenth century), and in the present century it occurred most frequently in America, next in England and France, and lastly in Germany, and indeed predominantly in the northern part thereof.

A *primary* and a *secondary* diphtheria are distinguished, of which the latter associates itself particularly with measles and scarlet fever, and occurs in a sporadic form, whereas the primary almost unexceptionally prevails epidemically, and is decidedly contagious.

**Symptoms.**—Primary diphtheria invariably begins with fever, marked acceleration of the pulse, increase of temperature of the skin, and general depression. Still, these phenomena in different individuals are extremely unequally developed; this inequality, in fact, is only a special peculiarity of this disease, since its occurrence and course, under equal circumstances and in equal ages, vary immensely.

The local symptoms make their appearance after these general phenomena have existed for a few hours, or at the longest one or two days. The patients are attacked by dysphagia, a snuffling, somewhat hoarse voice, and stiffness of the neck; the first two symptoms are due to the diphtheritic exudation coating the tonsils, palate, and nares, the last to the *never-absent swelling* of the adjacent lymphatic glands of the neck.

If the mouth is now examined by the aid of a good light, it will be seen that the mucous membrane of the lips, gums, cheeks, and of the hard palate, is perfectly intact, but that the soft palate, the tonsils, and the posterior wall of the pharynx, are covered with a white mem-

brane, which, especially upon the tonsils, may attain to one-half and even one line in thickness. The color of this membrane at first is perfectly white, but after several days it passes over into a yellowish-white or grayish-white tint. If the affected parts have been injured by escharotics or rough handling, small hæmorrhages ensue, in consequence of which the membranes assume a brownish or even blackish color. The course of these membranous formations varies according to the character of the epidemic. There are instances where the membranes have been cast off in two or three days, and the mucous membrane beneath was seen to be uninjured; there are other cases, and these form the generality, where the membranes exist for two and three weeks, the mucous membrane is thereby drawn into a process of ulceration, and heals only after a protracted period, with visible cicatrices; and finally malignant cases occur, in which gangrene soon manifests itself, followed by general collapse, the mucous membrane undergoing a black destructive degeneration. In this last unfavorable form, marked destruction of tissue takes place, usually quickly followed by death, and a recovery is but very rarely brought about.

If the membranes can be seen upon the places mentioned, then, of course, no doubt can be entertained in regard to the diagnosis. But in some particular cases a redness and slight swelling of the fauces only are noticeable, and yet all the subjective and the rest of the objective symptoms of diphtheria may be present. Here we have to deal with an exudation upon the *posterior* surfaces of the uvula, soft palate, and of the nasal cavities, as may be demonstrated by elevating the soft palate with a forceps, certainly accomplishable only in adults, and by the discharge of a profuse *reddish-colored mucus* from the nares. I have often convinced myself, at the *post-mortem* examination, that the anterior surface of the soft palate may remain perfectly free, while the posterior, on the contrary, may become coated with membrane. By far the most dangerous, and, in some epidemics, unfortunately also the most frequent phenomenon, is the extension of the membrane into the *larynx*, which will be treated of more minutely further on, in the chapter on croup.

Diphtheria is no *local* disease, for otherwise the vagina, excoriated surfaces on various parts of the body, the conjunctivæ, and sometimes also the anus, would not become simultaneously coated with false membranes.

The most common complications and sequelæ to be mentioned are *albuminuria* and *nephritis*, *croup*, *bronchitis*, and *pneumonia*, *intestinal catarrh*, *myocarditis*, and finally a peculiar *paralysis*.

Albuminuria is said to have been observed, in severe epidemics,

from the very commencement of the disease; in the ordinary epidemics, such a one as I witnessed in Munich in 1864, the urine at first is free from albumen, dark in color, and sparingly secreted. But later on, when the diphtheria has completely exhausted itself, a true nephritis occasionally supervenes, which, so far as the morbid changes in the urine are concerned, cannot in any way be distinguished from nephritis occurring after scarlatina. The urine has a blood-red color, contains a large quantity of blood-globules, epithelium cells and casts, and, on boiling, reveals a correspondingly large precipitate of albumen. But whereas in nephritis, after scarlet fever, anasarca and effusion of serum into the serous cavities, rapidly and in a critically high degree, take place, here, as a rule, the extremities do not swell, and dropsical effusions into the large serous sacs are still more rarely met with. Usually, this nephritis terminates in recovery, but for it we often have to wait many months, and it does not occur until an alarming general emaciation has set in, attended by a gradual decrease of the albumen. The absence of dropsy is most readily explained by the fact that in scarlatina both kidneys are almost always affected; in diphtheria probably only one is implicated, while the other remains in a normal condition.

*Bronchitis* and *pneumonia*, as complications of diphtheria, will be more advantageously spoken of in connection with croup.

*Myocarditis*, molecular degeneration of the cardiac muscle, is a tolerably regular pathological condition found in cases of sudden death, and occurs more or less frequently in every severe epidemic.

*Intestinal catarrh*, during and after diphtheria, in small children who are still laboring under dentition difficulties, is often of a very protracted duration, and, conjointly with the increasing anæmia, frequently leads to death.

The diphtheritic *paralysis* is of an extremely peculiar nature; its connection with diphtheria has been pointed out by *Orillard* only within the last decade. As regards the frequency of this phenomenon, it is extremely variable in different epidemics. In some epidemics almost all convalescents are said to manifest symptoms of paralysis; in others, again, for example in the one I witnessed, but a small number were so affected. The time of its occurrence happens mostly in the third or fourth week from the invasion of the disease, not often before; sometimes, however, much later, so that its subjects may seem to have enjoyed perfect health for from six to eight weeks, and still be liable to be attacked by paralysis. It begins almost invariably at the *palate*. The children suddenly get an indistinct snuffling speech, as is witnessed in persons with congenital or syphilitic-acquired defect

BIBLIOTECA  
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MILANO