during a convalescence, it will be protracted uncommonly long, and life will have to be sustained by a tonic and stimulating treatment, with wine, eggs, infus. carnis, meat, quinia, etc.

(2.) Hypertrophy of the Parotid Gland.—There is (*a*) a benign and (*b*) a malignant hypertrophy of the parotid gland.

(*a*.) The benign form may originate slowly and spontaneously, but is oftener the result of the above-described inflammatory conditions. Occasionally benign, fibroid, adipose, or cystic tumors, also develop themselves in the gland. The integument over the benign tumors is always displaceable. Simple hypertrophies are always unilateral, the pain on pressing the gland is very slight; the lower jaw is therefore always sufficiently movable, even in tolerably large swellings. It is differentiated from scrofulous induration of the cervical glands by the lobe of the ear being pushed off; the glands are more movable, and generally found in large numbers.

Treatment.—Simple hypertrophies may be made to diminish in size, or to disappear altogether, by an external application of iodine, once or twice a week, continued for some time; benign lipoma, and other tumors in the parenchyma of the gland, of course, do not disappear under the use of iodine; they must be removed by the knife, whenever they are sufficiently superficial, and it is possible to enucleate them without too great vascular and nervous injury.

(*b*.) Malignant hypertrophy of the parotid consists in the exuberation of a medullary or fibroid carcinoma in the parenchyma of the gland. It, however, never occurs primarily and isolated in the parotid; in most instances, it appears with a simultaneous carcinomatous deposit in other organs, and, as carcinoma in general, is extraordinarily rare in children. Where the carcinoma attains to a considerable growth inwardly, pressure upon the pharynx and larynx, and upon the large vessels and nerves of the neck, may ensue. The tumor also grows anteriorly, occasionally over the ascending ramus of the lower jaw, the contour of which then becomes indefinable. It is almost wholly immovable, and, according to the nature of the heteromorphous growth, hard (in fibrous carcinoma), or soft, even fluctuating (in medullary carcinoma).

The integument in the first kind is immovable, having become identified with the hard tumor. Tuberculous infiltration scarcely ever occurs in the parotid.

The treatment is as for carcinoma in general, merely life-prolonging. I am unable to say whether by extirpation of the carcinomatous parotid, one of the most dangerous and difficult operations in surgery, a child has ever been saved.

C.—*PHARYNX AND ŒSOPHAGUS.*

(1.) Angina Tonsillaris. *Cynanche* (literally the "dog's collar," from κύων, the dog, and ἄγχειν, to strangle).—The tonsils are aggregated mucous follicles, which in the normal condition ought to project barely above the arches of the palate, between which they lie. On the surface facing the isthmus faucium ten to twenty excretory ducts of mucous crypts are found, which give to the tonsils a perforated appearance, similar to that of the shell of an almond. Now, these ten or twenty crypts of each tonsil are subject to inflammation and suppuration, in which, like the furuncles of the cutis, the contents of one or several follicles induce suppuration of their surrounding textures, and finally are discharged by an opening that forms in the abscess. In this process, the whole parenchyma of the tonsil swells up, and is much disposed to pass over into a state of chronic induration; the latter condition may also originate spontaneously without having been preceded by suppuration of the crypts, and it then will be bilateral. A hollow, depressed excavation remains behind after each suppurative process, so that when the malady has recurred often the tonsils appear torn and ragged, but are thereby greatly reduced in size. The oftener angina tonsillaris has occurred, all the more probable is it that all the follicles have been destroyed, and all further opportunities for future inflammations have thereby been abolished; a rare example of a radical cure by Nature herself.

Symptoms.—The disease begins with difficult deglutition, pain, heat, and dryness of the throat. The affected tonsil becomes uniformly enlarged, and may be felt externally beneath the lower jaw as a small tumor. If both swell up simultaneously, as happens very often, they will touch each other; and all the symptoms become greatly aggravated, till finally even suffocation may ensue. Here the voice always becomes snuffling; the pain radiates toward the ear; as a result of the upward pressure of the posterior pillar, the passage leading to the pharyngeal opening of the Eustachian tube may become mechanically closed, and in this manner tinnitus aurium and hardness of hearing may be produced. The pain is greater on swallowing fluids than solids, such as bread and meat, for these, by their solidity, bore their way through, while fluids can only be forced through by the uniform pressure of the whole mouth against the swollen tonsils.

In examining the mouth, some precautions are to be exercised; the patients should be placed opposite a bright window, and at first simply be ordered to open the mouth, by which the entire process is often readily seen, especially if, at the same time, they put out the tongue and take a deep inspiration. If it is not possible in this manner to obtain

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a good view of the tonsils, the tongue will have to be depressed; and to this, according to my experience, the children submit themseves more readily when it is done with the finger than spatula or spoon-handle. Moreover, the tongue can be depressed much deeper with the finger than with the spoon-handle, and the head can also be more readily fixed. The soft palate is now seen to be reddened and the highly-inflamed tonsils covered with thick tenacious mucus. They fill up the greater part of the isthmus faucium. When the angina has existed for a couple of days, a few yellow dots will be observed on the tonsils, which, on puncture, emit a considerable quantity of fetid pus, and after a few days recovery is established, so far, at least, as the objective symptoms are concerned; for, notwithstanding the loss of substance, such a tonsil remains enlarged for years. Acute angina tonsillaris, with pain, difficult deglutition, and fever, in children, seldom lasts longer than five or six days, then the abscess bursts, or, if it does not attain to suppuration, it will pass over into the chronic, painless induration.

As regards its etiology, the disease sometimes occurs in an epidemic form; generally, however, the cases are only sporadic, and occur in particularly predisposed individuals. Aside from this, inflammation of the tonsils is a constant attendant upon scarlatina; here, however, it does not usually pass over into the suppurative state. It is also sometimes met with in secondary syphilis, which, on the whole, manifests itself on the soft palate and tonsils more rarely in children than in adults.

Therapeutics.—The treatment varies according to the age of the child. Small children under three or four years, who are less liable to this disease than those in whom the permanent teeth have appeared, are, it is well known, unable to gargle, and never retain water in the mouth, but swallow it directly. Thus, one of the principal palliative measures cannot be employed in these cases. The very popular eibis gargles mitigate the pain less and cannot remove the mucus that constantly coats the tonsils and fauces as well as cold water, which the patients should be induced to hold in their mouths, not gargle, till it becomes disagreeable to them by its own warmth; it is then replaced by fresh water. Thick cataplasms and bran-bags, in which half of the heads of patients are generally wrapped up, are said to accelerate suppuration, but they certainly make the head hot and discommode the child. I am more convinced that they produce the latter effects than the former, and for that reason do not employ them. Rubbing the neck with oil soothes the pain, and does not heat the skin. In adults severe anginous troubles may be mitigated very rapidly by a few leeches; in children, however, the loss of blood, and apprehension and excitement attendant upon the application of leeches, deserve more consideration. Incisions into the intensely-swollen tonsils, with which, in adults, great mitigation and abortion of the pain may be effected, require, first of all, the consent of those to be operated upon, which is useless to hope for in children. But where the dyspnœa is very great, and suffocation imminent, they have to be made, and cannot be replaced by the repeated use of tartar emetic. We succeed very rarely in causing the abscess to burst through retching. In that case, at any rate, the matter must have been very superficial, and in all probability would have been spontaneously evacuated in the next few hours.

In acute angina tonsillaris we may limit ourselves, therefore, to gargles of cold water and inunctions of oil. If suffocation threatens, incisions must be made into the tonsils, and when, owing to the great restlessness of the child, and for want of proper assistance, these cannot be safely performed, then an emetic may be tried. The constipation that is usually present is very appropriately relieved by a mild laxative such as decoct. tamarind, inf. rhei, or by a few teaspoonfuls of ℞. rhei aquosa.

(2.) Hypertrophia Tonsillarum.—There is an hereditary hypertrophy of both tonsils which develops very early in life, often in the second year, and is not the effect of anginæ. Here both tonsils are equally swollen, push the soft palate forward, lock the uvula in between them, enlarge upward toward the posterior nares, and thereby produce a snuffling voice. Occlusion of the mouth of the Eustachian tube induces tinnitus aurium and hardness of hearing. No redness, pain, or subjective symptoms, are present here; the dyscophosis, the snuffling voice, the keeping open of the mouth both night and day, a perpetual snoring during sleep, are the main signs that induce us to examine the tonsils, which are then found decidedly enlarged, and may also be felt from without.

I never observed atrophy of the respiratory muscles, and that peculiarly-shaped breast, pectus carinatum (pigeon-breast), first stated by *Dupuytren* to be the effects of hypertrophied tonsils, or, at least, they did not seem to be such frequent concomitants of this condition that an actual relative dependence might be deduced therefrom. There are a number of very-well-developed children who do not show the least trace of a pigeon-breast, or the least affection of the chest and thoracic viscera whatever, and yet suffer from hypertrophied tonsils; and again a still greater number of children, notwithstanding perfectly normal tonsils, are afflicted with a very severe degree of pigeon-breast and imperfect development of the pectoral muscles.

Before the commencement of puberty an arrest in the growth of the hypertrophied tonsils takes place, and in the adult the free space

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between them becomes enlarged. Children afflicted with this complaint are liable to acute anginous affections, and it is often accompanied by diseases of the skin, eyes, and bones.

Treatment.—The milder forms require no treatment at all. I have seen a remarkable diminution of the hypertrophied tonsils under the use of cod-liver oil for several months, given for other scrofulous complaints, but in the severest grades of the evil this remedy failed entirely. By cauterizations with nitrate of silver, skilfully performed, so as to give the children no pain or embarrassment, twice weekly and continued for a long time, a tolerable diminution in the size of the tonsils will be obtained, and in many instances the children, or rather their relations, will thereby be spared an operation. But where the evil is of a very serious degree, extirpation of the gland is absolutely called for; as otherwise the children may perish by suffocation. The operation is best performed with *Mathieu's* tonsillotom, with which the gland is first transfixed and then abscised. Children who are taken by surprise, and have no presentiment of an operation, willingly allow their tonsils to be embraced in the instrument, and in the next moment the glands are cut off, the patient hardly being aware of what has happened. The removal of one tonsil suffices to open the isthmus faucium; sometimes the operation may be performed immediately afterward on the other side; usually, however, the child resists it, and it is not advisable to use chloroform, as the blood from the severed tonsil may flow down into the air-passages.

The wound should be allowed to heal, and the other tonsil is cut off some other time, if the symptoms are not sufficiently mitigated by the first operation. The amputation of the gland by the aid of *Mussex's* forceps and knife is very laborious, and also very dangerous, on account of the close proximity of the internal carotid, which internally and behind is in relation with the tonsil, for in restless children it is liable to be injured.

(3.) Retropharyngeal Abscesses.—According to *Bokai*, abscesses of the posterior wall of the pharynx may be divided, in respect to the manner of their origin, into three kinds: (*a*), into such as develop themselves idiopathically from an inflammation of the pharynx and of the cellular tissue surrounding it; (*b*), into such as form secondarily, the result of suppuration of inflamed cervical glands; and (*c*), into such as are complicated with caries of the cervical vertebræ.

In all the three forms the first symptom is always a slowly-increasing pain on swallowing, to which a certain amount of stiffness of the neck, in the motions of the head without any externally perceptible diseased condition of this part, soon becomes superadded. The voice assumes a snuffling tone, and, on examining the mouth, the pharyngeal space is found constricted, the posterior wall of the pharynx not equidistant on both sides from the soft palate, and of a livid color. As the disease advances, the stiffness constantly grows more marked, the head is bent backward, and dyspnœa appears whenever the chin is made to approximate the sternum. The neck in the region of the angle of the lower jaw becomes slightly thicker. Fever and restlessness supervene, and increase from day to day with the growth of the abscess. In the highest grade of this evil children are totally unable to swallow, breathe very laboriously, with painfully-distorted features, the respirations are loud, stertorous, but *not whistling*, as in croup, for which, at first sight, the disease might be mistaken, especially since here, too, the speech becomes indistinct and the voice tuneless. The mouth is constantly full of mucus, and finally the posterior pharyngeal wall, on touching, fluctuates tolerably distinctly. The abscess may attain to such a size as to get in front of the soft palate, which will appear to lie upon it. When it extends deeply downward, even the os hyoid and larynx will be pushed forward or to one side, and, when at last it is opened, a large quantity of matter will flow out with a gush, followed by an instantaneous remission of all the phenomena; spontaneous bursting of the abscess during sleep is said to have caused death by suffocation, the pus filling up the larynx.

In the second form, following upon suppuration of the cervical glands, enlarged or suppurating lymphatics will in addition be found on the neck; and in the third, the most frequent kind, the preceding signs of disease of the cervical vertebræ for many months, such as pain and difficulty on rotating and bending the head backward, drawing upward of the shoulders, and hypertrophy or alterations in form of the affected vertebræ, may be observed. Although suppuration of the cervical lymphatics belongs to the common diseases of childhood, still retropharyngeal abscesses, resulting from this affection, are of extreme rarity. I have never yet met with this sequela of suppuration of the lymphatic glands. The *prognosis* in retropharyngeal abscesses is always doubtful; when they are accompanied by caries of the vertebræ, it is almost always of the fatal issue.

Treatment.—Since the diagnosis cannot be established with certainty till after the abscess has formed, but little can therefore be expected from antiphlogistics, leeches, ice, and laxatives, still less from resolvents, blue and iodine ointment, tincture of iodine, and cataplasms.

Patients a few years old derive the greatest relief from pieces of ice in the mouth, as it exercises an astringent and local anæsthetic influence. But when the physician has convinced himself of the existence of an abscess, an early opening is the only means whereby the

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harassing symptoms can be removed. When disease of the vertebral column is at the same time present, which, after all, is not very easy to diagnosticate, *Bamberger* justly advises to defer the operation until actual danger threatens, for the superaddition of air always accelerates the progress of the carious destruction of the vertebræ. If any improvement in caries of the cervical vertebræ is expected to ensue, then constant quiet rest in bed upon the back for several months is indispensably necessary. Conjointly with this, of course, the strength is to be supported in every manner possible, and subsequently the attempt must be made to cause absorption of the hypertrophied tissues of the vertebræ by the insertion of a seton, as well as by a long-continued use of iodide of iron.

(4.) Inflammation of the Œsophagus (*Œsophagitis*).—Almost all the affections of the mucous membrane of the mouth may extend down upon the mucous membrane of the œsophagus to the cardiac orifice of the stomach. Thus there is a catarrhal, mercurial, and diphtheritic inflammation of the same. Thrush also may extend down to the stomach. The most frequent form of disease of the œsophagus, however, is that produced by corrosive substances and foreign bodies. It scarcely ever occurs in children under one year of age, because these are still too simply fed, and are not apt to catch injurious articles and swallow them.

The symptoms of œsophagitis are as follows: Burning or lancinating pain at some part of the œsophagus, in the neck, in the back, between the scapulæ, or in the præcordia. Deglutition is always attended by pain; even the blandest fluid, the saliva itself, does not pass down without pain. Retching or actual vomiting will take place according to the severity of the pain; deglutition is particularly embarrassed in the dorsal decubitus, for, when the head is thrown far backward, the anterior wall of the cervical column forms a convexity which protrudes into the fauces; on this account it is customary to raise the head of a child whenever any thing is administered to it. The thirst in œsophagitis is very tormenting, but, for fear of the pain, children will refuse all drinks for days. Since the most common causes of œsophagitis are scaldings with hot water, lye, and concentrated acids, the principal morbid lesions are therefore always found in the mouth, and from these a conclusion may be arrived at as to the condition of the mucous membrane of the œsophagus. If ulcers have formed, they will heal but very slowly, for the œsophagus is stretched and distended every time any thing is swallowed, and strictures will almost always be the result; these slowly grow worse, the calibre of the tube, after many months, becomes contracted, and constantly grows narrower. Besides this œsophagitis from burns, which mainly originates through

the ignorance or clumsiness of children, who, instead of instantly spitting out again the corrosive fluids, swallow them, there is yet an œsophagitis of traumatic origin. It is produced by swallowing certain articles, such as fish-bones, fragments of meat-bone, needles, and by sharp bodies of all kinds which remain sticking in the gullet, and clumsy and rough attempts to remove them. Finally, ulcers of the œsophagus have also been met with as a result of the administration of large doses of tartar emetic, in powder.

Treatment.—All attempts to remove foreign bodies are attended by the greatest uncertainty, since it is impossible to arrive at any exact knowledge of the place of fixture and the character of the extraneous substance. Nor are they always necessary; for there are a number of articles, such as crusts of bread, hard cake of all kinds, even bits of wood, which, if allowed to remain for some time, become soft, and are subsequently carried down by some swallowed fluid. The longer the foreign body has remained, the more difficult it will be to remove it, because the inflammation of the œsophagus constricts its calibre. The attempt to push down sharp objects into the stomach may terminate disastrously, for it is just as easy to push them through the coats of the œsophagus as into the stomach. If the foreign article does not completely fill up the calibre of the gullet, as is scarcely ever the case with sharp or angular objects, it may sometimes be removed by an instrument let down over it, at the end of which there are a few blunt hooks, or by one that may be made to unfold after the manner of an umbrella.

Against chemical burns, if they are of but very recent occurrence, antidotes—acids against alkalies, and *vice versa*—must be administered properly diluted. Subsequently emulsions are to be given, and, to palliate the thirst, bits of ice are allowed to be melted in the mouth, if the child obstinately refuses to swallow. It will scarcely be necessary to prohibit the partaking of solid nutriments, as the mere attempt causes intense pain. If the pain is very severe, warm-water compresses should be applied to the neck, and opium given according to the age of the child: to a child two years old, one drop of laudanum; to one of three years, two drops, and so on, one drop more for every additional year. A very disagreeable and frequent termination of ulcerations of the œsophagus, such as result from chemical or mechanical irritants, are strictures, which must be prevented by the passage of bougies, after the manner of strictures of the urethra. Where they already exist, the frequent use of the bougie is the only means of saving the patient from starvation.

(5.) Congenital Fistula of the Neck (*Fistula Colli Congenita*).—A very rare, imperfectly-described, almost problematical dis-

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ease. I have never had an opportunity to see it. According to *Bednar*, it is indebted for its origin to the second or third gill-fissure remaining open. According to the same author, its external opening, in the environs of which the integument is firmly adherent to the subcutaneous cellular tissue, and forms a depression, is found in the lateral region of the neck, at a distance of half an inch from the clavicle and its junction with the sternum. Its internal opening either terminates in the head of the œsophagus, near the epiglottis, or in a *cul-de-sac* near it. The secretion of this fistula is a thick, tenacious mucus, and is discharged mainly during mastication and deglutition; water injected into it excites acts of deglutition.

All attempts to cure this deformity by means of cauterization have hitherto proved fruitless.

(6.) Sclerosis of the Sterno-cleido-mastoideus Muscle.—In the first weeks of life a peculiar, cord-like thickening of one of the sterno-cleido-mastoid muscles occasionally occurs, the pathology of which is as yet by no means clear. The induration is evidently situated in the muscle, not over or near it, always occurs unilaterally, has a cylindrical, lead-pencil-like form, and is from one-half to an inch in length. In most instances the tumor is tolerably movable, becomes more marked during the pressure of the abdominal muscles upward (during the act of inspiration), and participates in all the movements of the muscle. *Paget* states that the face cannot be turned toward the affected side; in the three cases that have so far occurred to me, no perceptible functional disturbance of the muscle was noticeable. The etiology, as given by the French writers, who regard the induration as having simply originated from a difficult labor, the use of forceps, etc., is not applicable to my cases, for the delivery in all three cases took place without any assistance from art, and the tumor was not noticeable till a few days after birth. The supposition of its being a tumefied lymphatic gland is untenable, on account of its cylindrical shape, and the absence of glandular indurations in other parts of the body.

Treatment.—All authors, *Labalbary*, *Melchiori*, *Dolbeau*, *Paget*, *Wilks*, etc., unanimously agree that the tumor disappears entirely after a few weeks, under the external use of iodine, and this I am fully able to confirm from my own experience.

D.—*STOMACH AND INTESTINAL CANAL.*

(1.) The most Important Symptoms of Gastric and Intestinal Affections.—So many symptoms repeat themselves in the various diseases of the stomach and bowels, that it seems judicious to become thoroughly conversant with them before entering into a description of the individual diseases, which may then be studied more comprehensibly in an anatomo-pathological manner.

(a.) *Dyspepsia* (from δυςπεψία, difficult digestion).—By dyspepsia is meant a complete abolition or merely a diminution of the appetite; in the latter case the ordinary articles of food are despised, and the patient has only a desire for delicacies, of which, however, he consumes but very little. The appetite is the most authentic index to judge a general disease by, and the examination that has to be instituted in reference thereto embraces the most important and difficult part of the whole examination of the patient. The physician should never be satisfied with answers embracing general amounts, but should ascertain very accurately the quality and quantity of the nourishment consumed, should have the dishes shown him out of which the child is fed, see how much they contained before the meal, and how much remained, etc., for then only can a correct impression be obtained of the actual or imaginary decrease of the appetite.

Bamberger, in his work on the Diseases of the Chylopoëtic System, treats of the following four kinds of dyspepsia:

(1.) Dyspepsia from pathological alterations of the digestive organs.

(2.) Dyspepsia from quantitative and qualitative anomalies of the digestive secretion.

(3.) Dyspepsia from altered nervous influence, to which also the secondary digestive disturbances occurring in the various diseases belong; and,

(4.) Dyspepsia from abnormal irritation of the nutriments.

All these forms of dyspepsia occur in children just as in the adult. The first is the rarest; the second is very frequent, and accompanies principally the augmented evacuations from the intestinal canal, diarrhœa. The third is present in all acute febrile diseases, and supplies the best cardinal point in judging of the severity and duration of the fever, and the fourth is the most frequent disease in the whole Pædiatrica, from which the majority of artificially-fed children suffer the whole of the first year of life. That these different kinds cannot always be strictly distinguished from each other needs scarcely to be expressly stated, since, indeed, some are directly dependent upon and stand in the closest connection with each other.

In every dyspepsia the act of digestion is not only retarded, but also accompanied by numerous local and general difficulties. The undigested articles of food that have been lying in the stomach for some time constantly generate gases, which have a smell, allied, though

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