infection owing to its environment of grease and dirt. Nevertheless numerous experiments with dust from combing machines showed that the disinfecting process had killed the great bulk of the bacilli and lowered the vitality of those which had survived. Hair could not be disinfected in bulk by exposure to steam at about 24 lb. pressure (253° F.) even for forty minutes.

When the results of the German experiments became known, Mr. Webb reduced the pressure at which he worked and found that equally satisfactory results were obtained with temperatures of 226° F. and 230° F. The German experiments conducted in the Imperial Health Office extended from 1894 to 1900.¹⁷ They have been very thorough, owing to statements made by manufacturers that the hair made to undergo the preliminary steam disinfection was reduced in quality, and therefore a source of loss. Current saturated steam, and not superheated steam, was used. The temperature recorded in these experiments in the centre has been from 99° to 101° C.

Leaving out of consideration hair white or light grey in colour, which would be turned yellow, the general conclusion arrived at by these experiments is that, provided the pressure does not exceed 2½ lb., equivalent to a temperature of 218° F., and due precaution is exercised in the management and regulation of the apparatus during the time of disinfection, no injurious effect is produced in the hair which could be considered as diminishing its value or causing it to be a source of loss. Success, however, is only to be attained by minute care in detail—(1) In the construction of the apparatus designed so as to allow the steam to enter from above and find its exit at the lowest part of the apparatus; (2) provision of pressure gauges marking clearly the point when the pressure of 2½ lb. has been reached, and provision of thermometers to control the temperature indicated by the pressure gauge, and (3) constant attention to the apparatus during the time disinfection is in progress.

Frequent occurrence of cutaneous anthrax among brush-workers in Belgium has recently caused inquiry to be made there, also as to the possibility of removing danger in manipulation of the material. Satisfied of the impracticability of making steam disinfection obligatory in the numerous small workshops throughout the country (a feature of the industry which everywhere adds to the difficulty of controlling the danger), Dr. Gilbert, Principal Medical Inspector, directed his attention mainly to experiments to determine how far simple boiling might be regarded as efficient. He satisfied himself that this was the case.

To secure certain destruction, however, of all anthrax spores in horsehair absolute reliance cannot be placed on either steam disinfection or simple boiling. Adoption of one or the other is a very material safeguard, and steam disinfection is practicable for all kinds of hair, except that which is of white colour, provided due care is observed. Risk, however, must always be run by those persons who prepare the hair for disinfection.

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PAN-AMERICAN MEDICAL CONGRESS.—The proceedings of the Pan-American Medical Congress, held at Panama in January, closed with a meeting of the Executive Committee at which the following resolutions, proposed by Guatemala and seconded by Peru, were carried: (1) That the next Pan-American Medical Congress arrange (a) for an international American pharmacopoeia; (b) for an international code of sanitation; (c) for an international code on temperance; and (d), as a sequel to the above, for the establishment of sanatoriums for the treatment of alcoholism; (e) for the formation of lectureships on medicine in the required studies of jurisprudence. (2) That there be formed at the next Congress a Section on Tropical Diseases. (3) That there be created Red Cross Branches, both Civil and Military. (4) Finally, it was resolved that encouragement be given to those engaged in the campaign against tuberculosis.

A SHORT NOTE ON THE NOSE AND NASO-PHARYNX.*

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It seems to me impossible to be definite or exact about the common affections of the upper air passages. Take, for example, these three phrases, chronic hypertrophic rhinitis, ozaena, and post-nasal catarrh. These troubles do not lend themselves to any sort of accurate description or classification; they give no opportunity for the language of dogmatic pathology.

I venture to suggest to you that the causes of these troubles lie a long way back in the history of our race. Surely it is not too much to assume that the inside of the nose and the back of the throat are in many of us naturally imperfect and feeble. Civilization is beginning to tell upon them as upon the teeth; and, of course, the word civilization includes all that we inherit from generations of sedentary or unwholesome life. Just as we are fated, many of us, to lose our teeth early, so many of us are fated to be troubled by the narrowness and feebleness of our upper air passages, fated to catch colds easily and get rid of them with difficulty, and to keep our mouths open by day, and to snore at night, and to have ear-aches in childhood and a relaxed membrana tympani in later life. One seldom sees a perfect set of teeth, and one seldom sees a perfect set of air passages. There is a crooked septum, or a spur on the septum, or an enlarged inferior turbinate, or a pinched, shallow naso-pharynx, so small that it will only just admit the tip of your finger, and the roof of the mouth, which ought to be low and broad like a Norman arch, is narrow and high like a Gothic arch, and the mucous membrane is thick, and clots of retained mucus slide down the back of the throat. It is unlikely, from all that we know of life, that the decay of our teeth should be an isolated fault of the body; it is likely enough that, as our teeth are coming to be crowded, irregular, and weak, so our air passages should come to have the same faults, and to be, like them, crowded, irregular, and weak.

Some of us may have had adenoids; but all these troubles are found in young people who have no adenoids and are not old enough to have had them and then outgrown them; and I think it more reasonable to believe that the inside of the nose and the back of the throat are tending, in the natural order of things, to become ill-developed and enfeebled, like their neighbours the teeth, especially among the poorer inhabitants of our great cities, who are the result of many generations of lives more or less unhealthy and sedentary. Which may make us impatient of all attempts at an exact classification of the maladies of this region of the body: for we know that organs in course of involution are variable and aberrant in their structure and in their action. Still, we must take things as we find them; we must, somehow or other, arrange these common diseases of the nose and the naso-pharynx. Perhaps, for practical purposes, we might make a sort of working arrangement of them as follows:

1. General obstruction. Under this head are included post-nasal catarrh, chronic hypertrophic catarrh, and those cases which have the look of adenoids, and the symptoms of adenoids, without adenoids.
2. General atrophy of the mucous membrane. Under this head are included ozaena and pharyngitis sicca.
3. Enlarged tonsils and adenoids.
4. Polypl. and other forms of new growth.
5. Specific infective diseases—tubercle, syphilis, etc.

Certainly it would take too long to consider all these diseases, and we may begin by setting aside the new growths and all the specific infective diseases. I would only recall that not only syphilis and tubercle, but also typhoid, may set up trouble within the nose. Typhoid, as it sometimes picks out the cartilages of the ribs or the cartilages of the larynx, so it sometimes picks out the cartilage of the nasal septum. I have seen 3 cases in which typhoid brought about some absorption of this cartilage. There was no ulceration or perforation or necrosis, only the skin of the nose fell in just below the nasal arch, leaving an ugly depression, just suited for the subcutaneous injection of paraffin. It is to be noted that one of these patients ascribed the deformity to her nurse, and was positive that the nose had been broken by rough nursing during the delirium of her fever.

* From a paper read at a meeting of the St. Pancras and Islington Division, Metropolitan Counties Branch.

General Obstruction.

By general obstruction I mean that state of things to which I have already alluded, where the nose is inconveniently crowded. I include under this division all cases of deformity of the septum or of the lower turbinates, and all, or nearly all, cases which are called chronic hypertrophic rhinitis, chronic catarrh, post-nasal catarrh, and pseudo-adenoids. The nose is narrow, stuffy, and overcrowded; the structures occupying it are healthy enough; they may be a little congested, but they are not inflamed, and they are not hypertrophied; they are only a little too large for the space assigned to them. The septum is deviated, or it has a spur along one side of it; it looks as if it had been bent across or broken across to make it fit. The lower turbinates take all the room that they can get, short of absolute occlusion of the nasal passages. In a word, the nose is overcrowded; which may be an inconvenience, but it is not a disease, no more than the overcrowded teeth which go with it are a disease, or the receding chin, which is held in popular opinion to be characteristic of a feeble mind.

The results of this general obstruction are twofold: First, there is the undue secretion or undue retention, or both, of mucus. I do not deny that the mucous membrane of the upper air passages may go wrong, as it were, of itself, without obstruction; but the great majority of the cases of chronic cold in the head and chronic dropping of mucus down the back of the throat are cases of obstruction. Next, there is that set of troubles which exactly imitate adenoids. Not a single sign is wanting to make up the complete picture of a case of adenoids. And then you examine the naso-pharynx and find none. What you do find is a narrow, pinched, inadequate little space, barely admitting your finger; there is no depth behind the nose; the soft palate and the back of the pharynx nearly touch. These children come to our hospitals literally in hundreds; they are as common as cases of real adenoids, or even more common, and it is impossible to doubt that many of them are subjected to the operation for adenoids who do not require it.

With regard to the treatment of these cases of general obstruction, I would submit to you this proposition: That we must steer a middle course between doing too little and doing too much. In many cases—I think in the majority—there is nothing more than inconvenience and occasional discomfort; there never will be more than that—and, indeed, as time goes on there will be not more but less. It may be enough in such cases to teach the patient how to treat himself, and this kind of self-treatment should be made very simple; it should be an affair of the toilet, not a surgical procedure. Elaborate sprays and lotions are out of place, and so are antiseptics. The object of the patient is to wash and clean his nose just in the same way as he washes his face or cleans his teeth. Plain warm water, with a pinch of salt in it, makes an excellent lotion; and to relieve himself at odd hours he will find ordinary smelling salts as good as anything else. I believe that a domestic remedy of this sort will suffice for these more trivial cases.

But we find now and again cases that demand more serious treatment; the obstruction is so bad that it interferes with the general health and threatens the Eustachian tubes, and with these severe cases I would submit that we cannot do much good either with the galvanic cautery or with chloroacetic acid. If we do anything, we ought to use a cutting instrument. It is easy and safe to remove a spur from the septum with a spokeshave or to remove part of a turbinate with a cutting forceps—and, if anything surgical be done, it ought to be not less than that; and I think that most surgeons are of opinion that it ought not to be more.

General Atrophy.

That general atrophy of the mucous membrane which we call ozaena in the nose and pharyngitis sicca in the throat is a most strange condition, and perhaps it is beyond our power of interpretation. It may be imitated, of course, by many things—by syphilitic necrosis, by a foreign body pushed up the nose and forgotten there, by pus in this or that accessory sinus, by a rhinolith, and even by the ordinary retention of mucus in general obstruction. Any one of these conditions may give rise to a foul smell from the nose: and I hardly need say that there is no meaning in that old distinction between smells which the patient, like everybody else, can smell, and smells which everybody else can smell but not the patient. So long as a man can smell anything he can smell his own nose; but if his olfactory nerves are not working, he cannot smell anything either inside or outside his nose. The

curious fact that ozaena attacks young women and spares young men may be the key to the true nature of the disease, but I cannot turn that key. These girls come in good health, neither tuberculous nor syphilitic; they have in them no evidence of any sort or kind of constitutional trouble; but the mucous membrane of the upper air passages is thin, dry, shrunken, colourless, and glazed, and crusts of fetid mucus cling to it, and under them it is raw, and marked with spots of blood, and the patient goes drifting from one hospital to another without much good from any of them. This general atrophy of the mucous membrane, and, indeed, of all the structures inside the nose—for the turbinates also are shrunken—is surely a very strange disease. It has been attributed by one authority to the simple natural dryness of a nose that is broad and spacious, with wide open nostrils, so that the inside of the nose is unduly exposed. Another authority attributes it to the opposite state of things, and says that this general atrophy is the final result of a general hypertrophy of the mucous membrane; also a special micro-organism has been found and isolated which has produced by inoculation a fetid discharge from the nasal mucous membrane of animals. Behind all these arguments, and not explained by them, are the incidence of the disease on a particular sex and age, and its interminable duration in spite of all treatment.

Enlarged Tonsils and Adenoids.

The children who only seem to have adenoids are just as numerous as the children who have them. For this reason, it is a bad plan to say "I am sure the child has adenoids; I will not distress him by digital examination, I will examine him under the anaesthetic, and remove what I find." If we do that it will not be long before we anaesthetize a child, and then find nothing to remove. Hundreds of children are brought or sent to every throat and ear department in London for the operation of adenoids, who have general obstruction without adenoids. Therefore we ought to examine every case, and of course we may save some children from a digital examination by seeing the growths in a post-nasal mirror; and it is easy to make a post-nasal mirror out of an ordinary laryngeal mirror, smallest size, by bending the shank of the mirror a little backward, and setting the glass well forward.

These children, who have all the bother of adenoids without any adenoids, what can we do for them? We cannot do much; we can often arrest and cut short the earache by the immediate use of Politzer's bag. And let me say, in passing, that the best drops for a sharp earache are not laudanum, or oil, but cocaine. A few drops of cocaine, with frequent big hot fomentations over the whole ear, will often cure the child, and, of course, the gentle washing out of the nose and the practice of breathing exercises are valuable, especially the exercises, and so is the improvement of the general health. But we cannot, after all, change the whole design of the nose, and many of these children will bear the marks of general obstruction to the end of their lives.

Next, what are we to do for those cases which are, as it were, on the borderland? We see so often young people from 15 to 20 years old; they have general obstruction, and they have also more or less an excess of lymphoid tissue. The tonsils are big and coarse, but not very prominent, they do not offer themselves well for the guillotine: the back of the throat is thick and stuffy, but there is no real mass of adenoids. These are disheartening cases; the ordinary operation brings away next to nothing, and does very little good, if any; I think the best that we can do is under cocaine to reduce the tonsils with a cutting forceps, and to cauterize the back of the throat somewhat freely either with the galvanocautery or with chloroacetic acid; but, so long as the general obstruction remains the same, there is not much to be gained by treating these borderland cases.

Next, what is the true answer to that frequent question, If the adenoids are removed now, is there any chance of their coming back? I think the answer is twofold. First, that cases of general obstruction *plus* adenoids may be improved for a time by the removal of the adenoids, then the trouble of general obstruction asserts itself again, and the whole picture of adenoids is reproduced; yet there are no adenoids, or, at the most, a mere trace of them. Next, that the adenoids do sometimes recur, even though they have been skillfully removed. I have had several cases where three operations had been done, and one bewildering case where a child had undergone five operations at three different hospitals.

What is the cause of ordinary big tonsils and adenoids? They are not in any recognized sense of the words a result of

inflammation. Babies are born with adenoids, and there are small children who have never had a touch of acute tonsillitis whose tonsils yet meet in the middle line; neither are they to be called tumours in any strict sense of the word; neither are they evidence of any definite constitutional disease—such as rickets, or syphilis, or the predisposition to tuberculosis. We call them a local hypertrophy, but that name explains nothing. We know that the stores of lymphoid tissue throughout the body are proportionally greater in the child than in the adult; but that is a physiological affair, and enlarged tonsils and adenoids are pathological. Surely it is not unreasonable to suppose that the lymphoid structures in the pharynx are under the influence of that natural tendency toward defective development which we see in the teeth and in the upper air passages. Crowded, irregular, and carious teeth; crowded and irregular air passages lined with a mucous membrane which is liable to general atrophy at puberty; crowded stores of lymphoid tissue which is liable to an irregular sort of hypertrophy—surely these three conditions may have a common origin in a gradual change of type. It is certain that our teeth in the course of ages are become weak and ill-developed, and in a word, degenerate, and it may be that this degeneracy is at work also on the neighbouring and allied structures of the nose and the pharynx. For we know that the tonsils, like other organs which are in course of involution, are variable. Many people have no tonsils; that is to say, you can just discover, between the pillars of the fauces, a mere vestige of lymphoid tissue, which is, so far as we know, useless. Others have an excess of lymphoid tissue which is worse than useless. Surely this irregularity in size, and this apparent uselessness in function, suggest degeneracy.

THE OPENING OF PERITONSILLAR ABSCESES.

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THERE are few operations in the throat which are simpler, safer, and more satisfactory than the evacuation of a peritonsillar abscess, yet there appears to be considerable dissatisfaction both in the public and the profession in regard to "puncturing the tonsil," as it is termed. In his *Manual of Medical Treatment* Dr. Burney Yeo writes that "patients constantly complain of being uselessly put to pain by these punctures, which appear to give no relief."¹ Some medical men are equally frank in their confession of dissatisfaction. Thus, an American *confrère* writes: "I have seen a good many cases of quinsy, and hate the sight of them, because there seems so little that we can do for them" (P. F. Barbour)²; while another, in still more forcible and picturesque language, exclaims, "I would rather go against a penny-in-the-slot machine, or try to play for four aces than attempt to get pus out of one of these abscesses" (M. F. Coomes).³

The anxiety connected with attempts to relieve a quinsy is not limited to the fact that such efforts are frequently fruitless, but extends to a fear of plunging the bistoury into some large artery. Bosworth,⁴ in spite of his long experience, says that in no case has he incised a quinsy without a certain degree of nervousness on account of the proximity of the blood vessels.

The usual sequence of events in this disease is somewhat as follows: Attempts at relieving the pent-up pus are willingly postponed both by patient and practitioner as long as possible—by the former, to escape increased and possibly useless pain; and by the latter, to avoid adding to previous failures. Finally, towards the seventh day or later, the patient begins to get worn out, the medical attendant thinks he will surely find that "matter has formed," and hopes that he may be more fortunate this time in striking it. Armed with a narrow, sharp-pointed knife, and with a vivid mental picture before him of the proximity of the carotid artery, he has much difficulty in securing any but the most restricted view of the field of operation. If successful in seeing the tonsillar region he probably thinks it best to thrust the knife into the most inflamed and prominent part which presents, though, for choice, he prefers to insert it into the tonsil itself, as safer and offering more chance of reaching a "tonsillar abscess." If no pus appears, and the patient is sufficiently tolerant, he may make two or more stabs into the

tonsil, and the failure to find pus is glossed over by the encouraging statement that the bleeding will do good. This is a wiser comfort than the assertion that the abscess is not "ripe," for at the next visit one may be met with the disconcerting announcement that it "burst in the night."

It seems to me that the uncertainty of relieving a quinsy is due to a want of appreciation of its usual location, and that the anxiety connected with opening the purulent collection can be entirely avoided by not using a knife and by adopting a safe and equally effective instrument.

A quinsy, or an acute collection of pus in the faucial region, never forms in the tonsil itself. Although small, discrete foci of suppuration may occur within the lymphoid follicles of the tonsil, this takes place as part of the process of an ordinary tonsillitis, and does not give rise to the acute collection recognized clinically as "a quinsy." The latter is always peritonsillar, and forms in the areolar tissue between the tonsil and the pharyngeal aponeurosis. In very rare cases it collects externally to the tonsil. More frequently it is met with posteriorly—in the prolongation of the posterior faucial pillar. But in the large majority of cases—over 90 per cent., in fact—the abscess forms above and in front of the tonsil. It is only the latter condition I propose at present to consider.

Fig. 1.—Acute peritonsillar abscess in a female patient, aged 26. The tonsils had been incompletely removed at the age of 15, and since then the patient had suffered from repeated attacks of tonsillitis. These attacks had doubtless caused the adhesions between the tonsil stumps and the anterior faucial pillars, and these adhesions tended to cause and aggravate recurring attacks of quinsy. Both tonsils show lacunar tonsillitis. The inflammation of the right tonsil stump bulges forward the faucial pillar, to which it is adherent. Above this is the peritonsillar abscess, pushing the median raphe of the palate to the left and causing oedematous inflammation of the uvula. As the quinsy is situated above the tonsil it distends the soft palate, and brings it much nearer to the front teeth (compare Fig. 2). The abscess in this case burst spontaneously through the supratonsillar fossa.

The clinical symptoms of this affection are so well known that it is only necessary to point out that, although the tonsil itself is never the site of the abscess, it frequently shows some signs of lacunar tonsillitis, and may be raised from its bed by the underlying suppuration. This occurs in the region of the supratonsillar fossa, above and external to the tonsil, and between the posterior and anterior pillars of the fauces. The latter is bulged forward and upward, and distended over the swelling; while the posterior pillar, the margin of the soft palate, and the uvula are frequently acutely oedematous (Fig. 1).

Left to itself the peritonsillar abscess generally bursts spontaneously into the mouth. The site of rupture often escapes detection, as in a large number of instances—probably the majority—it takes place through the supratonsillar fossa, and the pus trickles down over or behind the tonsil. But sometimes a quinsy will rupture through the soft palate, and the opening is apt to pass unnoticed since it may only be large enough to admit a small probe and allow of a slow