SOCIETIES' PROCEEDINGS.

PROCEEDINGS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

Held in Atlantic City, New Jersey, May 25–27, 1914.

Address of the President: The Air we breathe.—Thomas Hubbard (Toledo).—During the period 1825 to 1875 the standard of temperature of dwellings and public places was gradually increased from 55° F. to 72° F. There was no attempt at corresponding increase of humidity: 55° F. with natural ventilation implies about 40° relative humidity; 72° F. gives a natural humidity of 20 per cent. or lower. From the health point of view the 20 per cent. decrease in humidity is more important than the 15 degrees rise of temperature.

Catarrhal and acute infections are more prevalent during the cold months to a degree not creditable. Abnormal dryness of the air of our habitation is a factor worthy of attention. Dry air is dust-laden air—and an infection disseminator. Moist air causes precipitation of dust content, and a proper humidity lessens dangers of air-borne infections.

The caloric shock of sudden change from 70° F. and 20 per cent. relative humidity to outdoor air 30° F. and 80 per cent. relative humidity (average winter condition) causes chronic congestion and inflammatory reaction in air-passages. Chronic pathological changes in mucosa and turbinates follow. Unhealthful atmosphere of our habitations is the ever present ætiological factor in winter catarrh.

The difficulty of humidification lies in the high temperature standard. It is almost impossible to moisten air up to 50 per cent. relative humidity and at the same time ventilate. The problem is simplified at 65° F. with 40 per cent. relative humidity; 65° F. with 40 per cent relative humidity feels as comfortable as 72° F. with minus 20 per cent. relative humidity. 65° F. is the "critical point" in heating air. Fuel cost increases very rapidly above that. There is a positive natural resistance above 65°. To heat air from 60° to 70° F. costs as much in fuel as to heat it from 20° to 60° F.

65° F. is the natural temperature standard for habitations. In so far as we are habituated to a temperature above that, we are that much hypersensitised to temperature, and consequently more subject to caloric shock; and, further, health and economy unite in demanding a revision of heat standard downward, in order that a healthful humidity standard, 40 to 50 per cent., may be made practical.

Ventilation is important, but there is such a thing as too much ventilation. When air of desiccating, unhealthful quality in introduced in volume sufficient to change the air of a building two to four times an hour (the minimum rate to get proper distribution of heat), it is virtually a dry kiln effect, and the more rapid the change the lower the humidity. For example: Furnace heated school rooms are gradually brought down to considerably below 20 degrees relative humidity (14 per cent. in one test), and no amount of so-called "fresh-air" without artificial addition of moisture can offset the deleterious effect of the abnormal dryness.

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The average winter relative humidity of the North Atlantic and Middle States is near 80 per cent. This condition makes it all the more important that we give special attention to "conditioning" the air we breathe up to a tonic healthful degree of humidity.

Engineers and architects are prepared to meet any reasonable demand, and it is our duty to aid in educating toward establishing proper heat and humidity standards.

Dr. JOSEPH H. BRYAN (Washington): Physicians postpone taking up this very interesting subject, contenting themselves with treating the pathological conditions that take place in the upper air-passages resulting from vitiated air, rather than educating their patients how to live in an atmosphere that is not only comfortable but healthful. He agreed as regards the temperature of our living rooms; 65° seemed to him the maximum—anything above that increased the sensitiveness of the individual. It was notorious that Americans indulged in too much heat in their homes. The only other nation that lives in such hot houses is the Russian. Foreigners coming to America to live for the first time almost universally complain of the great heat of our houses. Humidity and temperature are so intimately connected that they cannot be considered separately. As Dr. Hubbard said, a temperature of 65° with a humidity of 40 per cent. will be as comfortable as a temperature of 72° with a humidity of 20 per cent. These are simply opinions, and must be verified by more extensive observations before they can be accepted as a standard for the sanitary engineers to go upon in supplying our homes and public halls with the proper atmosphere. How are we to arrive at the proper conditioning of the air we breathe so as to produce an atmosphere that is conducive to health? It can only be done by the medical profession joining forces with the sanitary engineer. The engineer is prepared by the many devices at his command to produce any kind of air that is desired. He, however, has not been able to bring about the desired results because there is no uniformity of opinion in the medical profession as to what kind of air is best for the health of the individual. We have been too slow to take up and investigate this most important subject. When this is done and a uniform opinion formed, there then remains for us the all important duty of educating our patients how to live in a healthful atmosphere.

Dr. JOHN F. BARNHILL (Indianapolis) said all had seen cases which cannot endure a temperature below 70° without great distress. These cases had been, in his practice, usually those of ethmoiditis; when they go into a lower temperature and are inactive they will have fits of sneezing, watery discharge, discomfort, cold feet, and distress in general. For a long time he thought there was something psychic about it, and tried to dissuade them from their feeling that high temperature was the proper thing. About two years ago he began to have the same condition himself. When he would sit in a room less than 70° he began to sneeze and had discomfort. He could not sleep in a room where the temperature was less than 65° without waking in the morning with great distress On examination by a rhinologist small polypi and a beginning ethmoiditis were found and when these were cured he could again live in a lower temperature without discomfort.

Dr. HENRY L. SWAIN (New Haven) did not understand which method was recommended for bringing up the humidity of any given house or room to a desirable state. It must be that if we are stimulating the physiological functioning of our nasal mucosa from both outside and inside, moistening the air to our lungs, we are making a physical stimulus

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sufficient to produce or to intensify a tendency to hypertrophy in such a nose.

Dr. CHARLES W. RICHARDSON (Washington) had, some years ago, talked to the chief of the Weather Bureau, and he raised the question of increasing the humidity and lowering the temperature as being the most comfortable for living purposes. He explained it so thoroughly and satisfactorily that ever since then he had kept his waiting room uniformly at 60° with 40 per cent. humidity. But most of his patients speak of the coldness of his hands. His patients also complained about the coldness of the rooms.

Dr. THOMAS HUBBARD (Toledo), in reply, said that in regard to Dr. Bryan's conclusions that 40 per cent. to 60 per cent. relative humidity is the healthful standard, most engineers believed that anything above 50 per cent. was impracticable, especially with regard to the question of condensation of moisture on windows and in cold weather the frosting, which must be taken into consideration. It should also be mentioned that when the occupants are undergoing physical exercise they can stand only from 45 to 50 per cent.; when engaged in a sedentary occupation they can stand more. The discomfort of foreigners is really due to the change in humidity, not to the temperature. He emphasised the indirect system of ventilation as largely responsible for the changes in the humidity; the colder the weather the less moisture in the atmosphere or fresh air you take into the furnace, and the more rapid the change in the air of the house the more rapid is the lowering of the standard of humidity. The modern system is a combination of direct and indirect—direct for the heat of the room and indirect for a moderately rapid change of air or temperature of the room. With reference to Dr. Richardson's statements he considered that 60° was too radical a change for most of us, because we are so accustomed to 70°, even with a humidity of 50 per cent. Ultimately we will regard 60° as a standard to be obtained, just as now we consider 65°, but at present it is too sudden a drop for most people from 70° to 60°, and there would be more or less positive physical discomfort.

Primary Lupus of the Larynx.—Emil Mayer (New York City).—Three cases of lupus of the larynx, two of them primary, had been under the writer's care during the past year. As he had presented this same subject seventeen years previously to this Association, opportunity was afforded for a comparison with the viewpoint then existing, as also of noting the progress made in the diagnosis and treatment of this affection.

The total number of cases of primary lupus of the larynx recorded in the literature up to the present time, including the two here presented, was thirty-five, indicating the rarity of this affection, which was first described by Ziemssen in 1876. It was perhaps noteworthy that the two cases presented by the writer in his former communication were of primary lupus of the larynx in their earliest stages, and were observed for many years; while the two here presented were in the later stage of the disease. Lupus of the larynx is a chronic disease with but the slightest symptoms, it is often accidentally discovered, and the prognosis as to life is relatively good.

The distinctive appellation of lupus should be maintained; primary lupus of the larynx, though rare, does exist.

Dr. J. PAYSON CLARK (Boston): A case I saw recently is very interesting—that of a young woman, aged twenty-four, who was sent to me by a skin specialist. She first discovered, somewhat over a year ago, a small

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red spot on the left cheek, just about the angle of the mouth; she showed it to local physician, who made light of it, so she forgot it; but last fall it had increased somewhat in size, so she went to a dermatologist. He was not able to make a diagnosis, but kept it under observation until early in February, when he decided it was lupus. Then a little later she was a little hoarse, and he thought there might be some lupus of the throat, so sent her to me. I discovered on the left side of the posterior wall of the pharynx, and involving the left posterior pillar, a pale nodular mass, which had all the typical appearances of lupus. On examination of the larynx I found the epiglottis swollen, pale, and nodular, and this same condition extended down to the aryepiglottic fold, and the arytænoids were somewhat enlarged. This patient was apparently in perfect health, well developed, of splendid colour; lungs examined and gave no sign of any trouble. What am I going to do with this case? Of course, if this condition existed only in the spot in the pharynx, I could curette it and cauterise it thoroughly, but I do not feel that by removing the epiglottis I will cure the trouble, because if you see an epiglottis infiltrated in that manner, you will know that the process microscopically has probably extended considerably further, and if you remove the epiglottis you will have no surety of removing the whole disease. Probably the aryepiglottis and arytænoids are also affected.

Dr. William E. Casselberry (Chicago): I was about to ask Dr. Mayer if he would not, in closing the discussion, go a little more into detail with respect to the first case. I do not doubt the correctness of his diagnosis, but I feel I would have made a mistake and called this tuberculosis of the larynx. In a man with advanced pulmonary tuberculosis, with cavities, etc., and with enlargement of the larynx and nodular enlargement of the epiglottis, even though not associated with much pain, I am sure that I have seen just such cases in both advanced and incipient tuberculosis, which I have included in my cases of tuberculosis of the larynx. I know that there is a clinical distinction between lupus and tuberculosis, both with respect to the skin and the mucous membrane, and I do not doubt that we can have the two conditions combined, just as Dr. Mayer has led us to infer was the case in his patient.

Dr. Henry L. Swain (New Haven): I would like to ask Dr. Mayer what has been the result, in these cases, of tuberculin used along modern methods, as in cases of tuberculous laryngitis? In speaking of the marked benefits from superheated air does he use suspension laryngoscopy?

Dr. Birkett (Montreal): Some years ago I reported before this Association a case of primary lupus of the pharynx, and at the same time mentioned a case of lupus of the nose which was found only accidentally to have involved the larynx. These conditions were definitely found to be lupus; first, from the presence of the bacillus, secondly, from the local definite reactions to tuberculin, and finally, from the transmission of the disease to guinea-pigs. The lungs in both cases were absolutely negative, for the use of tuberculin would have awakened any latent focus had any existed. The treatment instigated in both cases was the X-ray. In spite of the local treatment which I had carried out it had resisted treatment until X-rays were used, which was accomplished by means of a lead tube dropped into the pharynx and down to the larynx, allowing of direct application. Both cases got absolutely well. Recently, within the past six months, I have seen two cases of primary lupus of the nose, both of which have made complete recoveries under radium. In one case the specimen was definitely pronounced by the pathologist to be carcinoma; this was very curious, for two specimens were sent to the patho-

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logist at different times, without his knowing they came from the same patient, and he returned the same diagnosis for each. The physician in charge of the X-ray department, Dr. Perry, pronounced them locally to be cases of lupus.

Dr. EMIL MAYER, in reply, regarding the diagnosis in the first case: The man was brought to me by his physician, who was a very good observer, with the very thoroughly elicited history of having a complaint of only seven weeks' duration. His story was that over four years ago he had a cough, for which he was treated, and then remained well, and yet at the time of examination there was this tremendous infiltration and destruction in his larynx; a condition which must have been of very long duration and for which this man had absolutely no complaint. It seemed to me from the nodular excrescences, the absence of all previous bad conditions, together with the absence of dysphagia and its slow progress, for it was only discovered when the tuberculosis of the lung had become apparent, because the man had been in such surroundings that his history would have been brought out quite early if he had anything of the sort, that it was entirely proper to place this case solely in the catalogue of late appearance of lupus of the larynx, beginning there and eventuating in the lung. And as the second case was without lung involvement, and no great infiltration and destruction had occurred, I felt justified in putting both in the same category. It is possible that this is one of the cases we meet when we investigate cases of arrested tuberculosis. The point has been brought out by Dr. Birkett and Dr. Clark, that lupus of the larynx is an accidental discovery. As regards tuberculin treatment, it has been used extensively, particularly by Blumenfeld, Edmund Meyer, and others, and they extol it very much, used carefully and in the manner indicated. The old tuberculin is used in all instances, the new tuberculin not being used because of the danger of œdema. Superheated air is claimed to have good results by laryngo-fissure, and it was one of the methods of treatment which was suggested, using the Killian suspension apparatus. As regards the helplessness of our treatment, it does seem rather peculiar to speak of the treatment of a disease of slow progress which causes the *patient little or no discomfort. As regards any treatment which is* instituted—and we may have to go from X-ray, radium, superheated air to this new method of Pfannenstiel, of the direct effect of iodine—the whole endeavour should be to inhibit as far as possible the insidious progress of this disease.

Primary Sarcoma of the Trachea.—J. M. Ingersoll (Cleveland).—A case of sarcoma of the trachea in a man, aged thirty-two. The patient had a persistent, troublesome cough for several months, and during this time he had had three very severe prolonged attacks of paroxysmal coughing. In each of the attacks he had finally coughed up and expectorated what he called a "polyp." He corroborated this statement by showing me the polpyi which he had expectorated. They were irregular, slightly nodular masses. The smallest one was about 1·5 cm. in diameter, and the largest one was 3 cm. long and 1 cm. thick, tapering down to a small pedicle at one end. The larynx was inflamed, and on the left side of the trachea, just below the first ring, there was a pedunculated tumour, quite similar in appearance to the largest one which the patient had expectorated. At this same time there was no indications of any involvement of the tissue around the larynx and trachea. Microscopic examination showed the tumours to be spindle-celled sarcoma. External operation was refused at the time by the patient, and later, when he con-

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sented, the growth had already extended beyond the larynx and was inoperable. Thirteen weeks later the patient died; no autopsy was permitted.

Dr. D. Bryson Delavan (New York City): The question of malignant disease of the trachea is especially interesting because of its hopelessness. I have seen a number of cases of malignant disease and of non-malignant growths of the larynx treated by means of radium in the hands of at least one of the most expert users of radium in the world, and he found it extremely difficult to make the proper exposures of the radium to the growth. If that be the case in the larynx, the difficulties in the trachea are increased, even though the applications be made through an incision in the trachea. The use of the X-ray, while palliative and beneficial to a certain extent, we admit is powerless to cure certain types of growth.

Dr. Chevalier Jackson (Pittsburg) could recall but a single case, and even here he was not sure it was primary in the trachea. He had seen a large number of cases of malignant disease of the trachea, but always as an extension. There was one case where he felt justified in considering it primary. He also agreed with Dr. Delavan in the hopeless outlook. He could not imagine the possibility of the cure of even a very small primary malignancy in the trachea, when we consider the fact that it occurs, as Dr. Ingersoll said, on the posterior wall, which is full of lymphatics, and the lymphatic leakage is extremely prompt. It is a very different situation anatomically from a small intrinsic malignancy located in the larynx. When it gets to the posterior wall in the larynx it is truly hopeless of cure because of the lymphatic leakage. He questioned whether radium could accomplish much in malignancy in this position. He had seen it used with remarkable results in sarcoma of the larynx, which nearly a year later developed an unquestioned squamous-celled epithelioma on the site of the cured sarcoma. Was this a coincidence or due to the use of radium?

Dr. John M. Ingersoll: I have found as yet nothing which offers as much hope of recovery as an early operation if the condition can be got before it has extended beyond the trachea; in such instances it seems to me the hope of possible recovery is something like, but not as good as, in intrinsic malignancy of the larynx.

Horse Asthma and Allied Conditions.—J. L. Goodale (Boston).—Dr. Goodale reviewed briefly the literature relating to anaphylactic reactions following the administration of antitoxic sera, and reported a series of cases of vasomotor disturbances of the upper air-passages, which were examined in regard to their reactions following the local application of horse serum to the abraded skin and the nasal mucous membrane.

In five patients with horse asthma, the application of horse serum to an abrasion of the skin produced within a few minutes sharply localised œdema and reddening. In three of these cases the introduction of horse serum in the nose caused œdema of the nasal mucous membrane, together with profuse watery discharge and sneezing. One case of horse fever without asthma gave a delayed reaction to the nasal test, but was negative for the skin test. A similar case gave a delayed but definite reaction to the skin test, but showed no nasal symptoms. Four of the horse fever cases without asthma were negative for both tests. In two cases the sister who had horse asthma reacted markedly to both tests, while the brother, whose vasomotor symptoms from horses affected the nose alone, showed no reaction. Six cases of bronchial asthma and five cases of hay

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fever were negative for both tests. Three cases without vasomotor symptoms, which had received immunising doses of antitoxin several months previously, showed no reaction to the tests.

The results of these experiments indicate that a localised anaphylactic reaction from horse serum may be occasioned in certain individuals who experience asthmatic disturbances from the neighbourhood of horses. The severity of these vasomotor symptoms appears to be a determining factor in the production of the reaction, since persons with nasal symptoms alone do not appear to be sufficiently sensitised to horses to give a positive skin test.

The suggestion was made that a preliminary skin test with horse serum be made in all patients who have previously received an injection of antitoxin derived from horses, whether tetanus, diphtheria, or plague serum. Furthermore, in all patients who are about to receive antitoxin for the first time, inquiry should be made as to whether they have ever been disturbed by asthmatic symptoms when in the neighbourhood of horses, and if so they should first be tested.

So far as these experiments go, they would indicate that in horse asthma a dangerous anaphylactic shock may occur after the hypodermic administration of horse serum. In horse fever with nasal symptoms alone, this danger is less or not at all to be feared, and in other types of asthma and of vasomotor rhinitis it is not present.

Dr. Burt R Shurly (Detroit): Dr. Vaughan has certainly elaborated one of the most scientific and most practical theories in regard to sensitisation and anaphylaxis that has yet been brought before the scientific world, and the remarkable point of it all is that by injecting ordinary egg albumin solution in repeated doses the guinea-pig dies in all the phases of severe surgical shock. And the point which was not brought out in the paper is that it is exceedingly dangerous to inject any antitoxin after the ninth or tenth day from the initial dose. It was my pleasure many years ago to do the experimental work on the diphtheria antitoxins which were brought out by a large manufacturing house before they were put on the market, and we had occasion in a large diphtheria service for the first time to observe the very varying effects of antitoxin upon patients, and the very great difference in these effects according to the manufactured product. The product of some laboratories is exceedingly high in cutaneous reaction, erythema, urticara, and these manifestations of anaphylaxis vary according to the method of manufacture. So that, of course, the modern methods have greatly eliminated the dangers of sensitisation where the reaction is decidedly less. Those of us who have met with an example of what it means to see a death in three to five minutes after the injection of antitoxin certainly carry with us through life a most profound feeling of the very great danger which antitoxin may manifest, and yet in an enormous experience in our own city we have had but one fatal case after antitoxin administration. This was in a man, aged forty-five, whom I was called upon to do a tracheotomy for, but who had the anaphylactic symptoms inside of three minutes; in about five minutes he was dead. There was no history obtainable of a previous dose of antitoxin having been administered. But the very great danger comes in administering a dose after the ninth day; and it seems we have certain definite lessons to learn in the fact that we use horse serum to control hæmorrhage, and we use the various kinds of antitoxin in our special line of work, and we should have these definite things well in mind. For some reason, sensitisation increases in a most marvellous way after the ninth or tenth day, and you will

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remember that the cutaneous eruption which occurs after antitoxin is almost always to be found on the ninth day. Therefore, whenever I give diphtheria antitoxin to anybody, I always tell them not to be afraid of developing scarlet fever or measles should this rash appear, as it probably will, on the ninth day. Another very definite thing which we should always have in mind before administering an antitoxin is to inquire if the patient is asthmatic or already using antitoxin. Again, the use of the adrenalin glands are undoubtedly very greatly the source of many of these disturbances of sensitisation, as shown by Sajous in his elaborate scientific investigations.

Dr. HANAU W. LOEB (St. Louis): I should like to mention an experience which I once saw which brought this matter of sensitisation before my mind most convincingly. I could understand how, if an animal was sensitised to any agent, being again injected he would die, but in Dunbar's laboratory he made another experiment which was far more convincing. The sensitised animal died in three or four minutes; then he took the urine of that animal and injected it into an unsensitised animal, and that one died in a shorter time, showing the production of a deadly poisonous substance produced in but a few minutes.

Dr. J. PAYSON CLARK (Boston): I had the good fortune to run across what to me was a most marked case of horse asthma in a young man, aged nineteen, who said that he had had asthma from the age of three to ten years, and was cured by going to the southern pines, and then by an osteopath. Also, when he was a child he could not eat eggs without a sense of constriction in throat and blotches on his skin. For three or four years now, since he was fifteen years of age, he can eat eggs, but if he eats them raw he has a gagging sensation in his throat. As long as he can remember he has been very sensitive to a horse or cat. Riding behind a horse brings on an asthma, for which he has to go to bed—oppression in the chest, and all the symptoms of a severe asthmatic attack; at the same time he has sneezing and a watery discharge. The cat causes only nasal symptoms. On examination, I found the septum deviated and the right and lower turbinals swollen, mucous membrane bathed in watery secretion. I thought I would try Dr. Goodale's skin reaction; I did not get it, whether due to my faulty technique or not, I do not know. Then I thought I would try by hypodermic doses of horse serum, beginning with a minute dose. I prepared a solution by mixing the horse serum with normal salt solution, into which I put ·05 per cent. of phenol; on the first day I also applied some adrenalin to his nose to see what the reaction would be, and gave him a spray of camphor, menthol, and albolen. On May 1 gave him 1 : 1000 of 1 c.c., with no reaction; on May 2 1 : 1000 of 1 c.c., with no reaction. I then intended to increase the dose to 1 : 10 of 1 c.c., then to 1 c.c., in successive days, until I obtained a reaction. I then gave him one-fifth of 1 per cent. solution to use in his nose as a spray. He had been completely incapacitated for work because any dust made him sneeze. His father telephoned to me the day before I left Boston to attend this meeting that his son did not sneeze at all any more, and considered himself cured, and was going to take a position the following day.

Dr. HENRY L. SWAIN (New Haven): I have seen one patient so near death this winter that I tremble to think how close to the brink he was. Now, if from such work as Dr. Goodale presents there is a method which we will be able to use as a test, we are certainly adding to the list of possibilities when the need of antitoxin comes up. Is there any reaction in normal subjects?

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Dr. William E. Casselberry (Chicago): In Dr. Goodale's report he differentiates horse asthma from the general asthma class; the horse asthma patients will react to the serum, and these patients are subject to immunisation by means of the serum. We find many of our patients are a mixed form, suffering from horse asthma as well as other asthmas. In connection with Dr. Goodale's patient, who was an equestrienne and who reacted so favourably to the immunisation with the horse serum, did she have asthma in other directions, and did this other asthma show equal immunisation?

Dr. George E. Shambaugh: I would call attention to anaphylactic reactions following the eating of certain fruits. I remember the case in my own family of an individual who had the phenomenon that her eyes would swell and the œdema would extend to the conjunctiva, and was associated with some sneezing. She at times had had slight asthma. We did not know what the condition was caused by, and yet I have seen several cases where œdema of the larynx had followed the eating of grape fruit. When I noticed that, I observed in my own family that whenever grape fruit was eaten by this individual it would produce œdema of the eyes, and so this fruit was cut out of her diet, and the phenomenon disappeared; it has now been some time since she has had such an attack, and, strange to say, she can now eat grape fruit with impunity. I saw a case in the last few years where the patient had frequent attacks during the winter of anaphylaxis, with very pronounced swelling of the eyes, puffiness of the face, coryza, and discomfort. I never had a chance to see her during the attack. I examined her very carefully, and there was what seemed to me some evidence of hypertrophic ethmoiditis on one side; the symptoms were so annoying to her that I removed the anterior part of the middle turbinate to give her relief. The phenomenon continued at intervals; it apparently came on as a bacterial infection, and I was convinced later that it came from the tonsils, which I removed a year ago, and she has had no attack since. If I may judge from the results, the infection took place in the crypts of the tonsils, starting an anaphylactic reaction.

Dr. Joseph L. Goodale, Boston (in closing): There is no reaction in normal patients. There were three subjects having antitoxin last October in a small epidemic, and the death of one of the boys brought this matter to my attention. The cases which had had previous antitoxin, especially cases of horse fevers, showed no reaction. In the first place, the one case of mild horse asthma with fever complained of a lot of sneezing and a little constriction, and developed the reaction forty-five minutes after the dose. So that we have very marked differences in the promptness with which these reactions appear. With regard to Dr. Shurly's statement, that the ninth day is the one when skin reactions are usually found, I find this varies markedly. The von Pirquet has shown this difference in rapidity of reactions after a full dose. They may appear in a few minutes, in a few days, and the ninth day is usually the crisis at which the accomplishment of the storing of the zymogen reaches its maximum. Replying to Dr. Casselberry's query, my first patient lives on a farm, which she manages, and it is, therefore, a little difficult to separate the influence of horses from other influences. But I believe there are two types of asthma in this case, because I have on occasion made her leave the vicinity of the horses, during which times she was greatly improved; nevertheless, she still had some asthmatic symptoms. Since the removal of her tonsils four years ago she had been freer from continuous asthma, and the type is not simultaneous with increase in the

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œdema of the ethmoid, but with the neighbourhood of horses. It seems actually now as though she would have more comfort this summer than ever before.

Environmental Surgery of Otolaryngology.—John F. Barnhill (Indianapolis).—In the early history of the practice of otolaryngology the field was a very limited one. The belief seems to have been that the nostrils constituted the nose, the tympanic cavity and Eustachian tube the ear, and the structures outside the larynx were not included in the domain of laryngology.

As knowledge concerning the accessory sinuses of the nose and ear, and of the lymphatic system, the cranial nerves and their ganglia accumulated, the field of work of the specialist of this class of necessity widened until at present any limitation which does not include the diseases of the entire head and neck would be unwise. That the entire field of the surgery of the head and neck lies within the domain of the otolaryngologist should now be conceded by all. It is not advocated, however, that all who limit their practice to diseases of the ear, nose, and throat should undertake the many difficult and often capital operations necessary about the head and neck. Only a small percentage, perhaps, would feel sufficiently qualified to do so. It is advocated, therefore, that a cleavage in the ranks should take place, and that those who are not surgically inclined, and those whose surgical opportunities have been small, should limit their work to the therapeutic and local treatment of nasal and aural diseases, while those whose opportunities in surgery have been ample, and who are willing to devote their entire time to anatomic study and surgical progress, should undertake the difficult surgical problems of the upper air tract and its entire environment. Such an arrangement would be best for the patient, because it would save him from operation by those often little qualified to do surgery. It would insure better therapeutic measures on the part of those whose practice is not burdened by important surgical cases, it would free the real surgeon from the burdens of a large routine office grind, and would thus enable him to devote his entire time to the surgery of the most complicated region of the body.

Dr. D. Bryson Delavan (New York City): This is a burning subject, and has been one ever since the surgery of the larynx came into vogue. It bears out my own experience and that of all other laryngologists who have had to deal with operative laryngeal cases. The wife of a prominent officer, a lady in early middle life, had a little papillomatous growth which Dr. Knight and I observed for two years, after which time she developed symptoms of malignancy, was operated on by most expert operator, in one of the first hospitals in the city. No one could take the slightest exception to the operation, but the surgeon left this patient in the hands of an inexperienced nurse, who had never seen such a case before, and the patient died. Another patient of mine had exactly the same experience, and so on through a long list of harrowing accidents of all kinds. The suggestions in this paper meet with my approval, as I believe they are very valuable. There are two kinds of specialists as well as two kinds of surgeons. One kind is the therapeutist, whose strength lies in the medical side of laryngology, and the other kind is the natural born surgeon. It should not take long for one to discover on which side lies his forte.

Dr. J. Solis-Cohen (Philadelphia): One case occurred in my own practice which I have never published, and one very similar to that mentioned by Dr. Delavan. As all the people connected with it are now dead,

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I will relate it. I performed a laryngectomy, leaving the wings of the thyroid cartilage, taking out simply the interior, by a method which I devised at that time. I performed the operation and I had, as I thought, a good assistant at the hospital. I lived only three or four squares from the hospital, and at twelve o'clock that night it seemed to me I must go to the hospital and see what was the matter with that patient. I went and found the male nurse asleep on the floor beside the patient; the resident physician had told me he would stay up with the patient all night himself, and would let me know if I were needed. Then I went into that resident's room and found him in bed asleep. And if I had not been at that moment by his side, that patient would have suffocated from trouble with his tube. Another case occurred somewhat like that, and I felt a desire to go to the hospital, and when I reached the bedside I found the man struggling with a trained nurse who was trying to put in the tube upside down, strangling the man before my very eyes. Ever since then I have stayed by my patient for twenty-four hours. There are more patients lost by the after-treatment in laryngectomies than by the improper performance of the operation.

Dr. HENRY L. SWAIN (New Haven): When we consider that Gluck, who was the pioneer in doing complete laryngectomy, has performed his last sixty-one operations without a single operative death, it proves that the general surgeon, when he learns how, can do the work pretty well. When you take a man who does a thyrotomy and scoops out the growth without rhyme or reason, we understand why it is desirable for the laryngologist to be present. In other words, we who are interested and know the anatomy of the parts are better qualified to advise the general surgeon, and should at least be on hand to lend assistance and advice when such operations are being performed on our patients. This is equally true in removal of the hypophysis. If the surgeon wants to do the external surgery, all right, but we could do the operation as well or better.

Dr. JOHN F. BARNHILL (Indianapolis), in closing: I agree with what has been said. I think, however, it was not understood that I feel, as do some others, that laryngologists and otologists should do neck and head surgery in general. How often it is that we remove a tonsil and we find that the child or adult has a large number of decaying lymphatics that must come out; it seems that we should be able to undertake this work and not have to call someone else to do it. I believe the patient would stand a better chance of good recovery, and we would have a better interest, and that by proper and sufficient training we should be prepared for this work even better than is the general surgeon of to-day.

Laryngocele Ventricularis.—George E. Shambaugh (Chicago).—This name was applied by Virchow to a condition which he had found *post mortem*, consisting of an elongation of the ventricle of Morgagni, extending as far as the upper border of the thyroid cartilage and occasionally to the hyoid bone. This condition is now believed to be a normal anatomical variation. The term "laryngocele ventricularis," as here used, applies to a cystic dilatation of the ventricle of Morgagni, a pathological condition which results from forcible distension with air of the ventricle, usually as the result of coughing spells or the use of wind instruments. It is probable that as a predisposing factor an elongated appendix of the ventricle must be present. Cases occur where there is only an intra-laryngeal distension, others with only extra-laryngeal distension, where the cyst has broken through the thyro-hyoid membrane, producing a

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swelling in the neck, and in other cases where there exists both an intra- and an extra-laryngeal distension.

The case here reported occurred three years ago, in a woman, aged sixty-nine, and developed in the course of a violent coughing spell. There was a distension in the neck, the size of a hen's egg, and an intra-laryngeal swelling which filled at least two-thirds of the space in the larynx. About a year after the development of the laryngocele the condition became infected, and the most annoying symptom since then has been the discharge of quantities of foul-smelling pus into the larynx; as much as a quarter of a tumblerful can be expelled at one time by pressure over the external swelling. The case has been greatly improved by an external operation, in which the cyst in the neck has been removed down to the opening of the thyro-hyoid membrane. The intra-laryngeal condition has been operated upon by slitting the cyst from below upwards with a hooked knife. There is still present an enlargement in the larynx which causes some annoyance, especially from the discharge.

Dr. E. Fletcher Ingals (Chicago): I had a similar case without infection. I treated it by aspirating the cyst, and then injecting it with equal parts of 95 per cent. carbolic acid and glycerin. At any rate, I got an excellent result at that time. But he came back to me within the past month, and the cyst is now altogether intra-laryngeal, as large as a filbert, and I must do the same thing over again.

Abstracts.

PHARYNX AND NASO-PHARYNX.

Professor Gerber (Koenigsberg).—Tumours of the Hypopharynx. "Zeitschrift für Laryngologie," Band vi, Heft 5.

If the pharynx and œsophagus formed a continuous wide tube, as the older text-books showed, there would be little difficulty in the recognition and treatment of pathological conditions of the hypopharynx. As a matter of fact, the posterior part of the cricoid cartilage is so firmly applied to cervical spine that we have a water-tight and air-tight closure which only yields on swallowing or the application of force. Formerly pathologists always spoke of affections of the œsophagus when they referred to the hypopharynx. Case 1: Male, aged seventy, had suffered for five weeks from hoarseness and dyspnœa, but not from dysphagia. On examination, the right half of the larynx was fixed, the right false cord was greatly thickened and covered the true cord, and the swelling also involved the arytænoid and pyriform sinus. The left ventricular band was also swollen and hard, but there was no ulceration. A piece of the swelling was removed and microscopically examined, but showed only evidence of inflammatory and hyalin change. Suspension laryngoscopy was carried out and another portion of the swelling removed; this was followed by hæmorrhage, and intubation was necessary. Later, tracheotomy had to be performed, but in spite of this the patient died. The *post mortem* showed an ulcer in the right pyriform sinus which communicated with the larynx. The ulcer was typically epitheliomatous. Case 2: Male, aged thirty-eight, complained of something sticking in his throat, since he had swallowed a fish-bone. The patient, however, had no difficulty in swallowing, but complained of dyspnœa and retching at

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