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Relationship  
of  
nasal Inflammations  
to  
Pharyngeal and Laryngeal  
Inflammations;  
with  
a brief account  
of the  
Relationship  
of  
nasal Inflammations.



The main object of this paper is to attempt to show that an important relationship exists between Nasal, Pharyngeal and Laryngeal Inflammations which has hitherto been unknown, or, if known, has never to my knowledge been pointed out in a practical manner; the secondary object is to give a short description of the relationship which exists between Nasal Inflammations.

I was induced to take up this subject, in the first instance, by observing <sup>the</sup> care bestowed in hospital and in private practice upon the systematic examination of the Pharynx and Larynx, without, as a rule, any consecutive examination of the Nose.

Secondly, I had not worked long in this direction before

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it occurred to me that there was a connection between these inflammations which required further elucidation. Noticed, moreover, in investigating the literature of the subject that no author indicated efficiently & clearly the practical bearing which the nose has to its neighbours, the Pharynx and Larynx. Although the consideration of the relationship between nasal and aural diseases has been accomplished, yet I cannot discover among English & American, French & German writers any definite account of a relationship subsisting between inflammations of the Nose, Throat & Larynx. It struck me, therefore, that there was considerable laxity displayed in diagnosing the cause or causes of, and consequently often errors in,

The treatment of Pharyngeal & Laryngeal Inflammations.

I determined thereupon to pursue the plan of examining these three organs in every case, irrespective of the local site of the trouble complained of, and to embody the results of such examinations in the succeeding pages.

I purposed originally to have treated of Nasal diseases in general, as affecting & modifying a Pharyngeal and Laryngeal. At the outset of this intention, however, so many difficulties, arising partly from the vastness of the undertaking & partly from the many side issues involved, were encountered, that I was, perforce, compelled to limit my observations to those conditions - namely inflammations - which seemed

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capable of showing the most practical and original results.

The substance of this thesis is based, I may premise, mainly on examinations, observations and, in many instances, treatment of upwards of eight hundred cases in the clinics of Professors Schickler and Schroeter of Vienna. Of a hundred and fifty of these I have valuable records before me to assist me in my labour.

To simplify the subject I have, after giving a brief historical account of Rhiniditis sectioned it in the following manner:—

## Section I

Anatomy & Physiology  
of the Nose, Pharynx  
with Neo-pharynx,  
and Larynx.

Section II.

1. Acute Rhinitis
2. Chronic "
3. Hypertrophic "
4. Atrophic "

Section III.

A. The relationships of the above to similar or other inflammations in the Pharynx & Larynx.

B. The relationships of nasal inflammations to each other.

Resumé . Deductions

## Brief Historical Account

Acute Rhinitis has been known since the time of Hippocrates, who recognized the recuperative immunity which the aged enjoyed from this complaint. It was not, however, until Schneider<sup>1</sup> in the seventeenth century described the anatomy and physiology of the nasal mucous membrane that any valuable conceptions of the condition was presented to the professions. For the idea had previously existed that the nasal discharge came from the cerebral ventricles. J. P. Frank's<sup>2</sup> gave a full account of the disease towards the end of the last century and shortly afterwards Rayer<sup>3</sup> pointed out the dangerous nature of the affection to sucklings. Since the exertions of the latter many have worked at the subject.

1. "De catarrhis" Wittenbergae 1664

2. "De curand. homin. morbis" Mannheimi 1794, lib. V, p. 102 et seq.

3. "Sur le coryza des enfants à la mamelle." Paris, 1820.

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Donders' has given a detailed analysis of the secretion and Ranvier<sup>2</sup> a detailed account of the pathological changes.

Chronic Rhinitis. Regarding this a few words will suffice. This disease has only lately been brought prominently <sup>to the</sup> ~~to~~ front by the labours of the Germans and Americans, notably by Rosworth<sup>3</sup> Solis Cohen<sup>4</sup> and Beverly Robinson<sup>5</sup>, although Cazenave of Bordeaux had many years previously directed attention to the complaint in two excellent papers, published in Paris in 1835 & 1845.

Atrophic Rhinitis appears to have been known from early times as it is mentioned by Roman & Grecian writers among

1. *Nederlandsch Lancet*. 1849-50, 2 series, v. p. 312
2. V. Summary in *Lancet* 1874, vol I p. 687
3. *Manuel of dis. of the Throat & Nose*. New York 1881.
4. *Dis. of the Throat & nasal passages*. New York 1879.
5. *Practical Treatise on nasal Catarrh*. New York 1880.

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Other nasal diseases under the name ozæna. Thus, we find Ozæna described by Pliny<sup>1</sup> in his natural history, and by Celsus<sup>2</sup> - the one writing of the treatment of ozæna of the nose, the other applying the term to sores covered with crusts. Since their era a host of workers have, at different periods, attempted to elucidate the various conditions formerly included under this term - It is, nevertheless, only within recent years, by the introduction of improved methods of nasal examination and a profounder knowledge of nasal pathology, that we have been at all able to acquire an intelligent appreciation of this disease.

1. Hist. Nat. 25, 13, 102.

2. De Medicinâ lib. VI cap. 8.

## Section I

Anatomy and Physiology of the  
Nose, Pharynx with Naso-pharynx,  
and Larynx.

I do not propose  
to give a complete account of  
the anatomy and functions of  
these parts, but only such facts  
as are essential to the continuity  
of the subject.

The Nasal Passages may be considered  
as two short  
parallel tunnels, divided by a  
partition or septum, communicating  
posteriorly with the naso-pharynx  
and Pharynx, anteriorly with the  
atmosphere. The external wall  
is from a practical view most  
important, as attached to it are  
the turbinated bones over which  
runs that portion of the mucous  
membrane, rich in glandules, which  
is most liable to chronic and

hypertrophic changes. The nasal mucous membrane consists of two strata, a superficial mucous and a deep fibrous layer. The superior or olfactory part is thin, not very vascular and furnished with non-ciliated columnar epithelium; whilst the inferior or respiratory part, save that portion having cartilage for its framework, where the epithelium is squamous, is furnished with ciliated columnar epithelium, whose cilia vibrate towards the posterior nares. The sensory nerves come chiefly from the 1<sup>st</sup> and 2<sup>nd</sup> branches of the trigemimus

The nasopharynx is that space which lies between the nasal fossae anteriorly and the 1<sup>st</sup> & 2<sup>nd</sup> cervical vertebrae posteriorly. It is limited, above, by the body of the sphenoid bone.

and basilar process of the occiput; laterally, by the fossae Rosenmüller, openings of the Eustachian tubes and their prominent margins and passes below into the Pharynx.

The mucous membrane, continuous with that of the nose and Pharynx, is ciliated and especially rich in glandular tissue, hence the not uncommon presence of adenoid growths in this region.

The Pharynx, a continuation of the naso-pharynx extends from the 2<sup>nd</sup> to the 5<sup>th</sup> cervical vertebrae. It is connected, anteriorly, with the nose & mouth; inferiorly, with the larynx and oesophagus. Like the naso-pharynx, its mucous membrane contains numerous glands, and its sensory nerves supply as well as that of the naso-pharynx comes principally from the same source as that of the nose

For the practical purposes of this paper I shall hereafter speak of the naso-pharynx and Pharynx under the term Pharynx.

The Larynx. It will be adequate to say that this organ, as in the preceding, is lined with mucous membrane, partly ciliated, partly not. Except on the upper part of vocal cords, glandules are also scattered throughout the mucous membrane, though to a less extent than in the Pharynx and nose.

The functions of these parts:

The nose is the organ of smell and the beginning of the respiratory tract. It serves the important functions of warming the air before it reaches the sensitive mucous membrane of the Larynx, broken things

and of preventing the access of deleterious particles to those organs. In performing these functions it is greatly assisted by the disposition of the turbinated bones and spongy tissue which lies on these bones.

The Pharynx may be regarded as serving similar functions to the nose, raising somewhat the temperature of the inspired air, eliminating to some extent foreign particles which may have escaped the arresting function of the nose; it forms in addition a connecting link between the nasal organ and the Larynx.

From the above cursory anatomical and physiological outline, the importance of maintaining the nose in a healthy condition will be readily gathered.

For if healthiness is not maintained, what follows? In all nasal inflammations, except atrophic, in which the nasal breathing is excessive and consequently injurious, oral breathing is called into play, and although the air in passing through the mouth obtains a certain increase of warmth, yet it never gains that efficient amount which it does in passing through the nose; and in a still less degree does the mouth act as efficiently as the nose in preventing the ingress of extraneous matter to the Pharynx and Larynx.

Therefore unless the nose is always examined, we may have two unknown important factors in the production of different forms of Pharyngitis and Laryngitis, viz. (1) nasal inflammation and (2) insufficiently warmed air,

with noxious particles suspended therein.

Section II. Rhinitis

There is considerable disagreement among authors as to the nomenclature of Rhinitis. Some speak of acute and chronic forms and include under these hypertrophic, atrophic and other forms of Rhinitis. Others specialize such forms as Phlegmonous, Syphilitic, Strumous etc. My experience leads me to the conclusion that to obtain simultaneously an anatomical and clinical nomenclature — and we should always have these objects in view in framing a good classification — we must regard Rhinitis as divisible into four forms, namely,

1. Acute Rhinitis

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2. Chronic Rhinitis
  3. Hypertrophic "
  4. Atrophic "

This classification simplifies the subject and enables us to arrange under its proper heading any form which has a specific or special origin. For example, acute Syphilitic of the nose I call acute Syphilitic Rhinitis; thus, by using a qualifying adjective the whole condition is expressed in three words.

I may here mention incidentally and most fittingly that if we seek for the primary origin of most forms of nasal catarrhs, not acute — and concerning their origin I shall have more to say in the following section — we shall, I believe, discover that every form, be it chronic, be it hypertrophic, or be it atrophic, springs from acute Rhinitis. For the reasons

I have however already detailed and for all practical purposes when Rhinitis is once established it is best described and understood as above classified.

1. Acute Rhinitis

The mucous membrane in this disease is swollen and of an intense red color. The swelling is often more particularly marked on the anterior and posterior ends of the superior turbinated bones and may be accompanied with superficial erosions. An abundant secretion of an irritating serous or sero-mucous nature is poured out from the mucous membrane. The causes are ~~either~~ pre-disposing and exciting, frequently both.

Among the former are included the Strumous diathesis, the rheumatic constitution and the

nervous temperament; among the latter, exposure to cold, irritating fumes and particles in the air. But it must not be forgotten that the antithesis of cold - heat often exerts directly or indirectly a powerful influence. This arises, directly, from exposure to the Sun's rays; indirectly and more frequently from what is called "burning one's self" in a hot room, whereby the individual's constitution becomes enervated, and more susceptible to atmospheric changes and irritating influences.

Chronic Rhinitis

In this condition the discharge is above the normal quantity, the mucous membrane is red, irritable and somewhat thickened. When the latter is touched it returns but slowly to its previous position after pressure is withdrawn.

This want of resilient property, I regard as an important point in the diagnosis between chronic & hypertrophic Rhinitis. Chronic nasal Catarrh is a state frequently resulting from repeated acute attacks or from a <sup>single</sup> severe acute attack, which may have been neglected. It is especially apt to follow upon acute attacks in scrofulous individuals. There is, anatomically, an increase in the connective tissue of the deep fibrous and superficial mucous layers, which may be affected as a whole or at different parts. But in every instance the submucous fibrous tissue and the glandulae are chiefly involved.

### Hypertrophic Rhinitis

There are two forms of this, mucous and osseous, Briston Delaunay considers increased growth of the spongy bones of common occurrence. I

myself have seen one or two typical cases in which the bones, particularly the inferior, were greatly hypertrophied. Turning, however, to the certainly more common mucous and submucous hypertrophy, experience shows me that this condition is the commonest of all nasal morbid processes. The probable reason for this is that ordinary acute catarrh is in some instances treated at home, in others neglected. In the case of chronic Rhinitis the symptoms are not so troublesome usually as those of Hypertrophic Rhinitis, and patients so suffering do not probably seek advice until the symptoms are more urgent and the inflammation has passed into the next stage. Be <sup>the</sup> cause what it may the fact remains that Hypertrophic Rhinitis is commoner, in my hands, than any other form of nasal inflammation.

This condition is a serious one inasmuch as the nasal passages are often greatly occluded, & nasal breathing is difficult & oral <sup>breathing</sup> thereby becomes compensatory and attended with those evils already indicated at page 15.

The inferior turbinate body is undoubtedly the chief site of the hypertrophy — its posterior extremity may be transformed into a pyriform mass, or its anterior extremity may be thickened and even project at the nasal orifice, or the whole length of the body may be implicated.

In hypertrophic Rhinitis, as previously indirectly stated, the morbid tissue has a resilient property and therefore returns immediately to the position it occupied previously after pressure is removed. It is often difficult in the early stages of hypertrophy to decide whether we have to deal with a case of chronic or

Hypertrophic Rhinitis. I have, however, come to regard the success of the resilient test as a certain diagnostic of the presence of hypertrophy.

Atrophic Rhinitis.

There are few diseases more readily recognised than atrophic Rhinitis. The abnormal roominess of the nasal passages, the presence of superficial crusts of different colors on the mucous membrane, the ease with which the posterior wall of the Pharynx, the Eustachian tubes and the soft palate, when called into action, can be seen and the abominable stench, emitted combine to form a picture which is indelibly impressed on the mind. Such a picture is observed in advanced cases, though of course one may see varying degrees of atrophy, dependent upon the

the rapidity of the process and the length of time the disease has existed, both reference to the origin of the crusts and the fetor opinions are at variance and it is therefore difficult to arrive at the truth. Still if we carefully weigh the evidence concerning the origin of the crusts, so far as it has yet been put before us, we will, I think, agree with Fränkel, who considers the drying of the secretion arises from the presence of abundant cellular elements & a corresponding deficiency of water.

The fetor has been attributed to fermentative changes (Visschers), to decomposition of the mucous cells (Fränkel and Krause). I am inclined to believe that both these processes may be at work

7. Ziemssens Cyclopaedia Vol IV p. 128.

Section III.

A. Relationships of Nasal Inflammations to similar or other inflammations in the Pharynx and Larynx.

I interpolate here the remark that when stating any precise number of cases I refer to the total number of such out of 150 cases. I shall only in a general way incorporate my experience of the numerous unrecorded cases I have seen.

Shortly after beginning to pay attention to this particular subject I was greatly impressed with the fact that nasal inflammations seldom exist alone. I observed, that Rhinitis might be complicated or accompanied, in the nose itself, with some other form of inflammation, disease or malformation; in the

pharynx, in many instances with similar or other inflammations; and in the larynx also with similar or other inflammations. But Laryngeal inflammations were less common than Pharyngeal. In support of these statements I find only one uncomplicated case of Hypertrophic and Atrophic Rhinitis respectively, and two (2) uncomplicated cases of Chronic Rhinitis out of 150 cases of nasal and Throat trouble. Of this number (150) only nine cases of different forms of Pharyngitis and four of Laryngitis presented themselves without any co-existent nasal inflammation. These facts lead me to surmise that there must be a relationship of cause and effect between nasal and Pharyngeal and Laryngeal catarrhs, whose exact nature and practical value had not so far as I know

been worked out and introduced to the profession. Therefore to substantiate this belief I asked myself the following questions, namely,

1. Does Acute Rhinitis produce acute Pharyngitis and acute Laryngitis?
2. Does Chronic Rhinitis produce chronic or other inflammations of the Pharynx and Larynx?
3. Does Hypertrophic Rhinitis produce
  - a. Hypertrophic Pharyngitis?
  - b. Other inflammations of the Pharynx & Larynx?
4. Does Atrophic Rhinitis produce
  - a. Atrophic Pharyngitis?
  - b. Other inflammations of the Pharynx and Larynx?

These questions seem to me a convenient fulcrum around which to place my observations and accordingly I will take up, each question, seriatim, and endeavour to show what truth there is in them. Let us therefore advert to the first question:

Does acute Rhinitis produce acute Pharyngitis and Laryngitis?

Acute nasal catarrh can undoubtedly spread and implicate the Pharynx and Larynx. The effects are produced in two ways. Those elected to call one the continuity cause, the other the irritant cause. In the first, the inflammation spreads by the continuity of the mucous membranes. In the second, which is dependent upon the first, the catarrhal products spread and induce inflammation

by acting as a direct irritant of  
 the mucous membrane of the  
 Pharynx and Larynx, which is  
 always unstrung in the presence  
 of any nasal inflammation.  
 But the fact nevertheless remains  
 that acute Rhinitis does not  
 always cause acute Pharyngitis  
 and Laryngitis, though I am  
 inclined to think that the  
 Pharynx is more frequently  
 attacked than is generally imagined.  
 Perhaps it is only slightly effected,  
 and the greater urgency of the  
 nasal symptoms retains the  
 patient's attention to the exclusion  
 of pharyngeal catarrh. Still it  
 should be remembered, that such  
 an attack may ultimately be  
 the foundation for a chronic  
 inflammation. I have seen six  
 instances in favour of this view,  
 out of which all three organs  
 were attacked. I find no mention  
 of this question in Wood's *Pathology*

book. Scheek certainly speaks of the inflammation spreading to the naso-pharynx and says acute Pharyngitis is associated with acute Rhinitis, but gives no particulars of his statement.

2. Does Chronic Rhinitis produce chronic or other inflammations of the Pharynx and Larynx?

There can be little doubt that Chronic Rhinitis is capable of producing different forms of inflammation in the Pharynx and Larynx. Indeed, when one takes into consideration that these contiguous organs are continuous, have a similar mucous membrane and a sensory nervous supply practically the same, in the nose and throat - at least, it would not be extraordinary to expect that the Pharynx and Larynx participated

with the nose in Chronic — and  
 for that matter in hypertrophic <sup>& other</sup> —  
 affections. But how are these  
 chronic & other inflammations  
 brought about? By the same  
 means as in acute cases, viz.,  
 the continuity cause and the  
 irritant cause. The consequences  
 of Chronic Rhinitis may be a  
 hypertrophic, chronic and probably  
 acute inflammations. The glandulae  
 in the chronic and acute forms  
 escape to a great extent involvement.  
 In order to elucidate the above  
 question I incorporate the a  
 following table of cases bearing  
 on the point. But before doing this,  
 let me state that the cases in this &  
 the succeeding tables I examined carefully  
 & kept under observation for a variable  
 period. I endeavoured as far as possible  
 to ascertain if there were any previous or  
 existing cause or causes, which, apart  
 from Rhinitis, might account for  
 the various conditions.

Table I. Chronic Rhinitis with  
Pharyngeal & Laryngeal Inflammations.

| No. | Nasal<br>Inflam <sup>n</sup> | Pharyngeal<br>Inflam <sup>n</sup> | Laryngeal<br>Inflam <sup>n</sup> | Other<br>conditions      |
|-----|------------------------------|-----------------------------------|----------------------------------|--------------------------|
| 1.  | Chronic                      | acute                             | acute                            |                          |
| 2.  | "                            |                                   |                                  | Ph. Laryngea             |
| 3.  | "                            | Hypertrophic                      | Chronic                          | Atrophic Rhinitis        |
| 4.  | "                            |                                   | Chronic                          | Dev. nasal septum        |
| 5.  | "                            | Hypertrophic                      | Chronic                          |                          |
| 6.  | "                            | Chronic                           | acute                            |                          |
| 7.  | "                            | Chronic                           | acute                            |                          |
| 8.  | "                            |                                   |                                  | Tonsillitis              |
| 9.  | "                            | Hypertrophic                      | Chronic                          |                          |
| 10. | "                            | Congestion                        | Chronic                          |                          |
| 11. | "                            |                                   |                                  | Tonsillitis              |
| 12. | "                            | Hypertrophic                      |                                  |                          |
| 13. | "                            | Hypertrophic                      | Chronic                          |                          |
| 14. | "                            | Congestion                        |                                  | Hypertrophic<br>Rhinitis |
| 15. | "                            | Hypertrophic                      | acute                            | Tonsillitis              |
| 16. | "                            |                                   | acute                            | Hypertrophic<br>Rhinitis |
| 17. | "                            |                                   |                                  | Hypertrophic<br>Rhinitis |

It is to be noted from the above table that only in three (3) instances was there as Pharyngeal or Laryngeal trouble, that chronic Rhinitis is frequently associated with <sup>nasal</sup> hypertrophy, Chronic, or Hypertrophic Pharyngitis. Permit me, however, to dip a little deeper. Firstly, in answer to the first part of the question we have before us I must record that I have only seen 5 cases out of 150 in which I was able to trace Chronic Pharyngitis and Laryngitis to Chronic Rhinitis and only one case of Chronic Pharyngitis to Chronic Rhinitis. It would seem from this then that when Chronic nasal induces chronic Pharyngeal inflammation it also generally induces chronic Laryngeal catarrh. But although Chronic Rhinitis does not always produce similar inflammations in the Pharynx and Larynx it is

Nevertheless commonly associated with dissimilar forms of inflammation. I have seen several cases of Acute Pharyngitis & Laryngitis and Chronic Rhinitis together. The most common form of Pharyngitis arising from chronic nasal inflammation is undoubtedly granular or hypertrophic. The probable reason for this is that the pharynx being in a state of enervation, the glandules are thereby more <sup>susceptible</sup> ~~exposed~~ to the influence of the nasal discharge which in these cases is of an unduly irritating character.

Atrophic Pharyngitis & Chronic Rhinitis rarely occur together. I have seen only one instance.

3. Does Hypertrophic Rhinitis produce
  - a. Hypertrophic Pharyngitis and Chronic Laryngitis?
  - b. Other inflammations of the Pharynx & Larynx?

I regard this condition of Hypertrophic Rhinitis as one of great importance, to which indeed but little adequate justice has been given. I consider Hypertrophic Rhinitis may end in Atrophic Rhinitis. Before doing so, however, it produces in many instances Hypertrophic Pharyngitis or other inflammations in the Pharynx and Larynx. In a later stage of the process it may unless remedied produce atrophic Pharyngitis by inducing firstly hypertrophy and secondly atrophy of the Pharynx. Taking therefore all these points into consideration, into some of which I shall enter more thoroughly in a later paragraph, there is, I think, sufficient ground for my opening statement. Of this Disease I have seen a <sup>great</sup> deal and regret, indeed, that I have not at hand the data of every

case. But I have records of 76 cases and these along with my experience of probably twice that number will serve in a measure to demonstrate the disease and its associates.

I divide these cases into two tables, viz;

Table II.

Embracing 41 cases of Hypertrophic Rhinitis which were associated with Hypertrophic Pharyngitis in every instance and also, excluding a few cases, with Laryngitis.

Table III.

Embracing 35 cases of Hypertrophic Rhinitis which were associated with conditions other than Hypertrophic Pharyngitis

Table II Cases of Hypertrophic Rhinitis with Hypertrophic Pharyngitis and frequently chronic Laryngitis:-

| No. | Nasal Inflamm <sup>n</sup> | Pharyngeal Inflamm <sup>n</sup> | Laryngeal Inflamm <sup>n</sup> | Other conditions                   |
|-----|----------------------------|---------------------------------|--------------------------------|------------------------------------|
| 1.  | Hypertrophic               | Hypertrophic                    | Chronic                        |                                    |
| 2.  | "                          | "                               | Ph: Laryngeal                  |                                    |
| 3.  | "                          | "                               | chronic                        |                                    |
| 4.  | "                          | "                               | chronic                        | Fossillitis                        |
| 5.  | "                          | "                               | nil                            | Fossillitis                        |
| 6.  | "                          | "                               | Chronic                        | atrophic Rhinitis<br>" Pharyngitis |
| 7.  | "                          | "                               | chronic                        | Chronic Rhinitis                   |
| 8.  | "                          | "                               | chronic                        | Fossillitis                        |
| 9.  | "                          | "                               | chronic                        | Chronic Rhinitis                   |
| 10. | "                          | "                               | chronic                        | chronic Rhinitis                   |
| 11. | "                          | "                               | chronic                        | Atrophic Rhinitis                  |
| 12. | "                          | "                               | chronic                        |                                    |
| 13. | "                          | "                               | chronic                        |                                    |
| 14. | "                          | "                               | chronic                        |                                    |
| 15. | "                          | "                               | chronic                        |                                    |
| 16. | "                          | "                               | nil                            |                                    |
| 17. | "                          | "                               | acute                          |                                    |

| No. | Nasal<br>Inflam <sup>n</sup> | Pharyngeal<br>Inflam <sup>n</sup> | Laryngeal<br>Inflam <sup>n</sup> | Other<br>Conditions                                      |
|-----|------------------------------|-----------------------------------|----------------------------------|--|
| 18. | Hyperthrophic                | Hyperthrophic                     | acute                            |  |
| 19. | "                            | "                                 | Chronic                          | Paresis vocal cords                                      |
| 20. | "                            | "                                 | Chronic                          |  |
| 21. | "                            | "                                 |                                  | Syphilitic acute<br>inflamm. throughout                  |
| 22. | "                            | "                                 | chronic                          | Atrophic Rhinitis  |
| 23. | "                            | "                                 | nil                              |  |
| 24. | "                            | "                                 | Chronic                          |  |
| 25. | "                            | "                                 | Ph: Laryngea                     | Atrophic Rhinitis  |
| 26. | "                            | "                                 | nil                              | Adenoid growths<br>of naso-pharynx                       |
| 27. | "                            | "                                 | chronic                          | Deviated Septum  |
| 28. | "                            | "                                 | chronic                          |  |
| 29. | "                            | "                                 | chronic                          | Atrophic Rhinitis  |
| 30. | "                            | "                                 | Chronic                          | Chronic Rhinitis   |
| 31. | "                            | "                                 | Ph: Laryngea                     |  |
| 32. | "                            | "                                 | chronic                          |  |
| 33. | "                            | "                                 | chronic                          |  |
| 34. | "                            | "                                 | Ph: Laryngea                     |  |
| 35. | "                            | "                                 | acute                            | Specific acute<br>inflamm. throughout<br>with Toxicities |

| no  | Nasal<br>Inflam <sup>n</sup> | Pharyngeal<br>Inflam <sup>n</sup> | Laryngeal<br>Inflam <sup>n</sup> | Other<br>conditions             |
|-----|------------------------------|-----------------------------------|----------------------------------|---------------------------------|
| 36. | Hypertrophic                 | Hypertrophic                      | Chronic                          |                                 |
| 37. | "                            | "                                 | Chronic                          | Nasal polypus.                  |
| 38. | "                            | "                                 | nil                              | Chronic Rhinitis                |
| 39. | "                            | "                                 | nil                              | Chronic Rhinitis                |
| 40. | "                            | "                                 | nil                              |                                 |
| 41. | "                            | "                                 | Chronic                          | Chronic Lateral<br>Pharyngitis. |

In the foregoing table of 41 cases the singular fact is the invariable accompaniment of a hypertrophic Pharyngitis with a hypertrophic Rhinitis. Still more remarkable is the fact that I could gather no other assignable cause for the pharyngeal inflammation than the nasal condition. To confirm this I watched in several patients the progress of the inflammations without making any attempt at treatment and observed that the pharyngeal inflammation increased simultaneously with

The nasal inflammation.

Under the heading of Laryngitis it will be noticed that seven only were free from this. In the remaining 34 cases, Laryngitis was present in its different forms; twenty six patients had Chronic Laryngitis, four acute and four Phthisis Laryngea. In the latter the Rhinitis and Laryngitis in affections were concomitant. In the four acute cases no direct connexion between them and the nasal state could be traced, though probably the nasal condition acted as an indirect cause. In the twenty six instances of Chronic Laryngitis several originated from previous acute attacks but the greater proportion resulted from Hypertrophic Rhinitis through the intermedial Hypertrophic Pharyngitis.

We have therefore a striking list of cases here, well worthy of notice, where the whole

of the pharyngeal and the larger proportion of the laryngeal mischief spring from one origin, namely, Hypertrophic Rhinitis.

Table III.

Cases of Hypertrophic Rhinitis with conditions other than Hypertrophic Pharyngitis - 35 in number: -

| no. | Nasal Inflammation | Pharyngeal Inflammation | Laryngeal Inflammation | Other conditions  |
|-----|--------------------|-------------------------|------------------------|-------------------|
| 1.  | Hypertrophic       | nil                     | chronic                | Tonsillitis       |
| 2.  | "                  | chronic                 | chronic                |                   |
| 3.  | "                  | atrophic                | chronic                |                   |
| 4.  | "                  | nil                     | chronic                | Tonsillitis       |
| 5.  | "                  | chronic                 | nil.                   | Deviated Septum   |
| 6.  | "                  | nil                     | nil.                   | Peritonsillitis   |
| 7.  | "                  | chronic                 | chronic                |                   |
| 8.  | "                  | nil                     | nil                    | Tonsillitis       |
| 9.  | "                  | chronic                 | nil                    | atrophic Rhinitis |

| No. | Nasal<br>Inflam <sup>n</sup> | Pharyngeal<br>Inflam <sup>n</sup> | Laryngeal<br>Inflam <sup>n</sup> | Other<br>Conditions                                      |
|-----|------------------------------|-----------------------------------|----------------------------------|--|
| 10. | Hypertrophic                 | chronic                           | chronic                          |  |
| 11. | "                            |                                   |                                  | Tonsillitis  |
| 12. | "                            | chronic                           |                                  | Atrophic<br>Rhinitis                                     |
| 13. | "                            |                                   |                                  | Tonsillitis  |
| 14. | "                            |                                   |                                  | nodular Larynx<br>Anemia of<br>Pharynx.                  |
| 15. | "                            |                                   | chronic                          |  |
| 16. | "                            | chronic                           |                                  | Deviated Septum  |
| 17. | "                            |                                   | chronic                          | Tonsillitis  |
| 18. | "                            | acute                             | acute                            |  |
| 19. | "                            | acute                             | acute                            |  |
| 20. | "                            | acute                             | acute                            | Atrophic<br>Rhinitis                                     |
| 21. | "                            |                                   |                                  | Deviated Septum  |
| 22. | "                            | acute                             | acute                            | acute Rhinitis   |
| 23. | "                            | chronic                           | Ph. Larynx                       | Atrophic<br>Rhinitis                                     |
| 24. | "                            | atrophic                          |                                  | Atrophic Rhinitis<br>Dev. Septum<br>Pneumonia of everts. |

| No. | Nasal<br>Inflam <sup>n</sup> ? | Pharyngeal<br>Inflam <sup>n</sup> ? | Laryngeal<br>Inflam <sup>n</sup> ? | Other<br>conditions  |
|-----|--------------------------------|-------------------------------------|------------------------------------|--|
| 25. | Hypertrophic                   |                                     |                                    | Deviated<br>Septum.<br>Chorda Arteriosa<br>Congestion of<br>Pharynx. |
| 26. | "                              | chronic                             | chronic                            | chronic Rhinitis   |
| 27. | "                              | atrophic                            | chronic                            | atrophic Rhinitis  |
| 28. | "                              | chronic                             |                                    | chronic<br>Rhinitis  |
| 29. | "                              |                                     | chronic                            | chronic Rhinitis   |
| 30. | "                              |                                     | Ph. Laryngea                       | atrophic<br>Rhinitis   |
| 31. | "                              |                                     | chronic                            |  |
| 32. | "                              |                                     | acute                              |  |
| 33. | "                              |                                     |                                    | chronic<br>Rhinitis  |
| 34. | "                              |                                     | acute                              | ulcerated<br>septum<br>Ephilitis?<br>Tonsillitis.                    |
| 35. | "                              |                                     |                                    |  |

On analyzing the above cases of Hypertrophic Rhinitis it will be observed that most of them were associated with the various forms of inflammation of the contiguous organs, and of the nose itself. In three instances acute Laryngitis was present; the history pointed, however, rather to exposure to cold than to nasal disease, although the co-existence of Hypertrophic Rhinitis in these and similar attacks of the Pharynx acts, I am of opinion, in an indirect manner, as already alluded to at page 40. In four cases chronic Pharyngitis and in five cases chronic Laryngitis existed together with Hypertrophic Rhinitis.— the former had for their origin the nasal disease, whilst probably three of the latter arose from the same source. I shall explain later the instances where more <sup>than</sup> one nasal inflammation

prevailed.

- 4 Does atrophic Rhinitis produce
  - a. Atrophic Pharyngitis?
  - b. other inflammations of the Pharynx and Larynx?

Scheek says "The constant & accompaniment of atrophic nasal catarrh is pharyngitis sicca, which, although generally localised to the naso-pharynx may also extend to the pharyngo-oral cavity" Now in this he errs; he makes a too sweeping assertion. I grant that the ultimate result of atrophic nasal catarrh may be atrophic Pharyngitis, if the former is not held in abeyance by treatment. But I think it is always & desirable to speak of cases as they present themselves to us in actual life. For the sake therefore

<sup>1</sup> vide Dr. Blaikies Translation p. 238.

of throwing more light on this point and at the same time answering my queries, let me incorporate two tables of cases I have examined and watched, in one of which nasal and pharyngeal atrophy were present, the latter following upon the nasal atrophy, and in the other of which no pharyngeal atrophy occurred.

Table IV.

12 cases of atrophic Rhinitis associated with atrophic Pharyngitis

| no | Nasal Inflamm <sup>n</sup> | Pharyngeal Inflamm <sup>n</sup> | Laryngeal Inflamm <sup>n</sup> | Other Conditions            |
|----|----------------------------|---------------------------------|--------------------------------|-----------------------------|
| 1. | Atrophic                   | atrophic                        |                                |                             |
| 2. | "                          | "                               | Chronic                        | anomalies of larynx         |
| 3. | "                          | "                               | ph. Laryngeal?                 | slight granular Pharyngitis |
| 4. | "                          | "                               |                                | Hypertrophic Rhinitis.      |

| No  | Nasal<br>Inflam <sup>n</sup> | Pharyngeal<br>Inflam <sup>n</sup> | Laryngeal<br>Inflam <sup>n</sup> | Other<br>Conditions       |
|-----|------------------------------|-----------------------------------|----------------------------------|---------------------------|
| 5.  | Atrophic                     | Atrophic                          | chronic                          |                           |
| 6.  | "                            | "                                 | "                                |                           |
| 7.  | "                            | "                                 | "                                |                           |
| 8.  | "                            | "                                 | "                                |                           |
| 9.  | "                            | "                                 | "                                |                           |
| 10. | "                            | "                                 | "                                | Hypertrophic              |
|     |                              |                                   |                                  | Rhinitis et               |
|     |                              |                                   |                                  | Pharyngitis.              |
| 11. | "                            | "                                 | "                                | Chronic                   |
|     |                              |                                   |                                  | Pharyngitis.              |
| 12. | "                            | "                                 | "                                | Hypertrophic              |
|     |                              |                                   |                                  | Rhinitis. General         |
|     |                              |                                   |                                  | Hypertrophy of Eth. nose. |

Table V.

15 cases of Atrophic Rhinitis associated with conditions other than atrophic pharyngitis:—

| No. | Nasal<br>Inflam <sup>n</sup> | Pharyngeal<br>Inflam <sup>n</sup> | Laryngeal<br>Inflam <sup>n</sup> | Other<br>Conditions                        |
|-----|------------------------------|-----------------------------------|----------------------------------|--|
| 1.  | Atrophic                     | acute                             | acute                            |  |
| 2.  | "                            | acute                             | acute                            |  |
| 3.  | "                            |                                   | Ph: Laryngea                     |  |
| 4.  | "                            |                                   | Chronic                          |  |
| 5.  | "                            | Hypertrophic                      | chronic                          | Hypertrophic<br>Rhinitis.                  |
| 6.  | "                            | Hypertrophic                      | chronic                          | Hypertrophic<br>Rhinitis.                  |
| 7.  | "                            |                                   | Ph: Laryngea                     |  |
| 8.  | "                            | Hypertrophic                      | Ph: Laryngea?                    |  |
| 9.  | "                            | acute                             | acute                            | Hypertrophic<br>Rhinitis.                  |
| 10. | "                            | Chronic                           | chronic                          | Adenoid growths<br>of naso-pharynx.        |
| 11. | "                            | chronic                           | chronic                          |  |
| 12. | "                            | Hypertrophic                      | chronic                          | Hypertrophic<br>Rhinitis. Sec: Septum.     |
| 13. | "                            | chronic                           | Ph: Laryngea                     | Hyp: Rhinitis                              |
| 14. | "                            |                                   | Ph: Laryngea                     | Hyp: Rhinitis                              |
| 15. | "                            | acute                             |                                  | Oedem: Tonsillitis<br>Anemia of<br>Larynx. |

Thus, it will be seen that out of 28 cases of atrophic Rhinitis — one being uncomplicated — twelve were associated with a similar condition in the Pharynx. In these I had every ground for considering the nose the primary seat of the affection. It may therefore be conceded that nasal atrophy often causes pharyngeal atrophy, — perhaps in half the number as far as my experience carries me. But at the same time Pharyngitis sicca is not a "constant accompaniment" of atrophic Rhinitis as is shown by adverting to Table V. Grouping the details obtained from this into a few sentences we observe 15 cases of atrophic Rhinitis without any similar state in the Pharynx. And the nasal atrophy in these cases varied in degree, from a limited patch to extensive destruction, in which the mucous membrane was a mere thin

covering of the nasal passages. It will be further remarked that in the absence of pharyngeal atrophy other conditions of a less formidable nature are often observed. Thus, acute chronic and hypertrophic inflammations are of not infrequent occurrence, the hypertrophic being, perhaps, the commonest. Then acute and chronic Laryngitis are also equally as frequent as Pharyngitis. In all these instances the nasal atrophy was the cause, acting either directly or indirectly - a curious relationship would appear to exist at times between Laryngeal Pthiasis and nasal atrophy. I have seen 5 well-marked cases in which the Laryngeal and nasal destruction were concomitant and seemingly because worse together. In these cases too the treatment that was adopted was less successful than in simple nasal atrophy, as one

would naturally anticipate.

B. The Relationship which exists between nasal Inflammations.

In approaching this subject I feel conscious of treading on ground which is almost virgin in its nature, because but little light has been thrown into it. I trust, however, that the eventual fruition of others' exertions and my own in this direction will result in the clearing up of a question of considerable importance from a pathological and Therapeutical standpoint. I therefore venture to assert that, given a typical case of acute Rhinitis it is possible for this to be the origin of all other nasal inflammations. That is to say, acute Rhinitis may cause Chronic Rhinitis, the latter a Hypertrophic Rhinitis and finally

Hypertrophic Rhinitis, atrophic  
 Rhinitis. It may not indeed be  
 always a single acute attack  
 which is the starting point - it  
 frequently requires several - but  
 a single severe attack is certainly  
 in my experience sufficient to  
 induce chronic catarrh which  
 in its turn induces hypertrophy  
 and atrophy. For instance, I  
 remember well a case of acute  
 Rhinitis under my care for treatment.  
 At the end of the third day of an  
 attendance the man disappeared;  
 six weeks afterwards he returned  
 with a well-marked chronic  
 Rhinitis. The individual was very  
 erratic in his movements, coming  
 to me when he chose. The result  
 of such conduct was to nullify  
 any advantages which treatment  
 effected and the last time I  
 examined him the chronic or  
 inflammation verged on the  
 hypertrophic.

Let us, however, take a figurative case including the four inflammations. We will suppose a person contracts a severe acute nasal catarrh which may or may not be healed.

Yet runs its course, losing in time its acuteness, and gradually merges into chronic inflammation. It remains in this condition for a longer or shorter period - it may be a few weeks, months or years - then we find the mucous membrane growing thicker and thicker, throwing off, as it were, its chronic nature and becoming hypertrophic. This persists probably for years but ultimately undergoes gradual destruction and finally ends in atrophy.

Such are the steps of a process which, by analogy with inflammation in other organs, one may anticipate as capable of occurring in the nose. Look for example at the history of hepatitis; we have acute

inflammatory attacks of the  
 Liver, resulting in chronic  
 cirrhosis, with enlargement, which  
 corresponds with the hypertrophic  
 stage of Rhinitis, and subsequently  
 atrophic cirrhosis. Analogous processes  
 occur also in the Kidneys & Stomach.  
 But what is really the evidence  
 in favour of my assertion?

First, in regard to acute Rhinitis  
 causing Chronic Rhinitis - the  
 evidence on this point is generally  
 considered conclusive. In fact,  
 investigators are unanimous  
 in saying that acute Rhinitis  
 is the most common cause of  
 Chronic Rhinitis. My own experience  
 is decidedly favourable to this  
 statement; one seldom sees a  
 case of chronic nasal catarrh,  
 in which there has not previously  
 been some form of acute  
 Rhinitis

Secondly, that chronic Rhinitis, with certain reservations, induces Hypertrophic Rhinitis may also be acknowledged. Instead of advancing to the hypertrophic stage chronic Rhinitis sometimes remains stationary and it is this that makes chronic nasal catarrh appear to have a successful termination in many instances. I have seen ~~seen~~ twenty such cases without any hypertrophy supervening. In some of these the inflammation was of recent date; in others, of long standing, as a year or more; others again were on the borderland between chronic and hypertrophic inflammation, which latter lead me to suggest that if we could keep such cases under observation for probably some years without treatment, or hypertrophy would, even in these cases, be eventually developed.

The direct evidence which I possess of the gradual transition of chronic into Hypertrophic Rhinitis is tabulated below:-

Table VI.

13 cases of Chronic Rhinitis associated with Hypertrophic Rhinitis.

| No  | Chronic Rhinitis | Hypertrophic Rhinitis | Other diseases                                 |
|-----|------------------|-----------------------|--|
| 1.  | "                | "                     | Pharyngitis                                    |
| 2.  | "                | "                     | acute Laryngitis                               |
| 3.  | "                | "                     |  |
| 4.  | "                | "                     | Chronic Pharyngitis                            |
| 5.  | "                | "                     | " Laryngitis                                   |
| 6.  | "                | "                     | Phthisis laryngea                              |
| 7.  | "                | "                     | Tonsillitis. Laryngitis                        |
| 8.  | "                | "                     | Hypertrophic Pharyngitis                       |
| 9.  | "                | "                     | Hypertrophic Pharyngitis. Chronic Laryngitis   |
| 10. | "                | "                     | Hypertrophic Pharyngitis. Chronic Laryngitis   |
|     |                  |                       | Hypertrophic Pharyngitis<br>Chronic Laryngitis |

| No. | Chronic Rhinitis | Hypertrophic Rhinitis | Other diseases                                |
|-----|------------------|-----------------------|---|
| 11. | "                | "                     | Hypertrophic Pharyngitis. Chronic Laryngitis. |
| 12. | "                | "                     | Hypertrophic Pharyngitis. Chronic Laryngitis. |
| 13. | "                | "                     | Hypertrophic Pharyngitis                      |

These cases afforded me opportunities of attempting to elucidate the connection between chronic and Hypertrophic Rhinitis. In some of them hypertrophy supervened upon chronic catarrh in only one nasal passage; in others, in both passages; and it was remarkable to observe the gradual change from chronic into Hypertrophic Rhinitis. Frequently chronic catarrh prevailed throughout the nasal mucous membrane and then one noticed the transition from this to hypertrophy, beginning usually with a limited patch on the mucous

membrane of the inferior turbinate body. The thickening was not great at first, but increased by degrees not only in thickness but also in extent of surface until undoubted hypertrophy existed.

Thirdly, the consideration of the question whether hypertrophic Rhinitis causes atrophic Rhinitis or not is in reality the keystone to the whole statement I have advanced. In regard to the constitutional etiology of nasal atrophy it is frequently imagined to be of strumous or syphilitic origin. But authorities are divided among themselves. Take, for instance, the opinions of Stoerk, Schrotter and Schaffer on the one side; Gottstein Fraenkel and Morell Mackenzie on the other. Stoerk thinks atrophic Rhinitis is always of syphilitic origin; Schrotter records 74 cases, among which syphilis in 34 cases

and Scrophala in 10 cases were the alleged causes; Schäffer gives 99 cases as due to Struma and 20 to Syphilis out of 119 cases. Gottstein Fraenkel and M. Mackenzie, on the contrary hold widely divergent views from the above. Gottstein in 12 cases could not trace Syphilis at all and only in 2 cases was there any probability of Scrophala; Fraenkel does not believe in any special dyscrasia; and Morell Mackenzie also does not believe the disease is constitutional in the true sense of the word. I hold likewise the opinion that the disease is not constitutional; in fact, the whole tenour of this discourse is intended to give it a simpler origin. I certainly think that, failing to discover other causes, one is too ready to lay at the door of Syphilis and Scrophala the origin of any disease which may attack individuals of these constitutions.

Of course the disease may occur with as great a frequency in syphilitic and strumous persons as it occurs in healthy persons.

I have only seen one patient in whom there was any likelihood of a syphilitic origin. So much a therefore for the constitutional causes of nasal atrophy.

Now, Atrophic Rhinitis must arise in one of three ways:

1. By the mucous membrane and subjacent tissues undergoing a primary atrophy
2. By extension of pharyngeal and naso-pharyngeal atrophy to the nose.
3. From pre-existing nasal inflammation

The question of nasal atrophy arising primarily, i.e., without antecedent inflammation, is very doubtful. I know of no instance and if it occasionally occurs does not come within the scope of the present inquiry. The question

is, however, still open.

The extension of atrophy from the naso-pharynx is not of common occurrence, in my opinion, but should be borne in mind. We are therefore limited to pre-existing nasal inflammations in dealing with the origin of nasal atrophy.

The pathological changes, consequent upon previous inflammations, are of a quasi-cirrhotic nature. In this process not only are the soft tissues involved but also the turbinated bones. Gothein<sup>1</sup> recently had an opportunity of investigating the changes in the mucous membrane microscopically and states "the appearances were those of chronic Rhinitis with more or less advanced cirrhosis of the mucous membrane and a partly infiltrated and atrophied condition of the glandulae"

<sup>1</sup>Meslauer Ärztliche Zeitschrift. Sept. 1879 Nos. 17 & 18.

Hartmann<sup>1</sup>, Krause<sup>2</sup> and Fraenkel<sup>3</sup> have also had similar facilities and all agree in the main with Gottstein as to the connective tissue changes in the mucous membrane and partial degeneration in the secreting elements.

The chief difficulty experienced in tracing nasal atrophy to nasal hypertrophy is, it is alleged, the necessity in the majority of instances of following the course of particular cases for years.

Schäffer has indeed been able to watch some cases and ascertained that Hypertrophic Rhinitis lasted eight or ten years before atrophy set in. Here then we have distinct proof of atrophic Rhinitis proceeding from Hypertrophic Rhinitis. Morell Mackenzie also regards it as resulting

- 1. Deutsch. Med. Wochenschrift No 13. 1878
- 2. Virchow's Archiv. Bd. 85. 1881.
- 3. " " " 87. 1882

from prior inflammations. Bayer states he has seen hypertrophy in the children of individuals who were suffering themselves from atrophy. I have, on the contrary, seen a woman, aged 44, with atrophy in one nasal passage, atrophy and hypertrophy in the other, whose daughter had complete atrophy. The evidence I adduce favourable to atrophy arising <sup>from</sup> hypertrophy is contained in the following table.

Table VII.

Hypertrophic and Atrophic Rhinitis occurring together:

| No. | Hypertrophic Rhinitis | Atrophic Rhinitis | Other Diseases                              |
|-----|-----------------------|-------------------|---|
| 1.  | "                     | "                 | Chronic Pharyngitis<br>paralysis voc: cords |
| 2.  | "                     | "                 | acute Pharyngitis<br>acute Laryngitis       |
| 3.  | "                     | "                 | Chronic Pharyngitis<br>Atrophic Laryngitis  |

| No  | Hypertrophic Rhinitis | Atrophic Rhinitis | Other diseases   |
|-----|-----------------------|-------------------|--|
| 4.  | "                     | "                 | Deviated septum<br>atrophic Pharyngitis<br>paries voc: cords.      |
| 5.  | "                     | "                 | atrophic Pharyngitis<br>chronic Laryngitis.                        |
| 6.  | "                     | "                 | Deviated septum<br>ulcerated voc: cords                            |
| 7.  | "                     | "                 | Hypertrophic Pharyngitis<br>chronic Laryngitis.                    |
| 8.  | "                     | "                 | chronic Pharyngitis<br>chronic Laryngitis                          |
| 9.  | "                     | "                 | Hypert:ic Pharyngitis<br>chronic Laryngitis                        |
| 10. | "                     | "                 | Hypertic Pharyngitis<br>chronic Laryngitis                         |
| 11. | "                     | "                 | Hypert: Pharyngitis<br>Atrophic Larynx?                            |
| 12. | "                     | "                 | Deviated septum<br>chronic Laryngitis<br>Hypertrophic Pharyngitis. |

The different degrees of hypertrophy and atrophy which prevailed in each case of the above table are of importance. In numbers two, four, five, seven, eight and eleven the hypertrophy pre-dominated over the atrophy. In numbers six, nine and twelve the atrophy exceeded the hypertrophy. and in numbers one, three and ten the hypertrophy and atrophy were about equal. The remarks which immediately follow table VI (page 57) apply with even greater force to the cases just tabulated. Thus, in some instances hypertrophy and atrophy could be traced on one side only, in others, on both sides; and the hypertrophy passed frequently into atrophy by almost insensible gradations. I had, in fine, every opportunity and facility for examining and watching these cases and was able to satisfy

myself of the gradual transition from the one state to the other. In conclusion and to repeat, I feel convinced from my own observations in these cases, and recollections of numerous unrecorded cases, that nasal hypertrophy ends sooner or later in nasal atrophy.

### Resumé

1. Acute Rhinitis may or may not induce acute Pharyngitis and Laryngitis.
2. Chronic Rhinitis frequently induces chronic and other inflammations in the Pharynx and Larynx, chronic Pharyngitis not being, however, so common as other forms of Pharyngitis.
3. Hypertrophic Rhinitis very

commonly induces Hypertrophic Pharyngitis and chronic Laryngitis; when the former is not present other inflammations <sup>of the Pharynx</sup> are not infrequently associated with a Hypertrophic Rhinitis

4. Atrophic Rhinitis induces in about half the cases atrophic Pharyngitis. In the remainder, acute, chronic and hypertrophic Pharyngitis and acute or chronic Laryngitis may be present.

5. Acute Rhinitis induces chronic Rhinitis, which induces Hypertrophic Rhinitis, which finally induces atrophic Rhinitis.

### Deductions

1. Rhinitis is a much commoner cause of Pharyngitis & Laryngitis than it is generally imagined to be.

2. Therefore a strong relationship exists between the nose, Pharynx and Larynx, which should always be remembered.

3. For this reason, it is of the utmost practical importance that the nose should be examined carefully both anteriorly and posteriorly in every case of pharyngeal and laryngeal trouble.

4. By this means an early diagnosis of Rhinitis is made and a frequent cause of Pharyngitis and Laryngitis detected.

5. Treatment must be directed towards the nasal catarrh in every instance of pharyngeal and laryngeal mischief. In other words, nasal treatment consecutive with pharyngeal

and laryngeal treatment &  
produces earlier and more  
permanent beneficial results  
than if treatment, as I have  
frequently seen, is confined  
to the Pharynx and Larynx.