His physician reported a few months later that he had died with all the evidences of malignant disease of the kidney. Examination showed the growth to be a giant-celled, rapidly growing sarcoma.

Another case occurred in a child 2 years of age. A firm tumor was found at the outer part of the orbit. It had the feel of a sarcoma, and connective tissue was found extending into the bone. It was cut loose, but rapidly recurred, and the child died.

THE ETIOLOGICAL RELATION OF NASAL DISEASES TO AFFECTIONS OF THE EYES.

Read in the Section of Ophthalmology at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, Mich., June 1892.

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Within the past eight years various publications have appeared intended to show a connection between certain ocular and nasal disturbances.

The proof that lesions of the orbit, eye and its appendages or symptoms referable to these parts are induced by preëxisting nasal diseases, can be furnished in various ways, viz.:

1. We may trace anatomically the extension of disease of the nasal cavity into the orbit or into the appendages of the eye.

2. We may observe clinically the involvement of these parts or of the eye itself in disease consecutive to and in direct connection with nasal disease.

3. We may influence in a characteristic manner by means of nasal treatment eye affections the prognosis of which is definitely known.

4. More decisive than these methods is the experimental production of eye lesions in animals in consequence of nasal disturbances. As yet, nothing has been done in this line. But practically equivalent to experiments on animals are various observations of disturbances in the eyes or lids following experimental irritation or irritant treatment of the nose in patients.

Of these different modes of proving the connection between ocular and nasal diseases the first method is the most definite one, no matter whether we trace the extension of the disease during life or at an autopsy. The second way, the clinical observation of the evolution of the ocular disorder demands reliance upon the patient's statements, since the physician can but rarely see such cases at their incipency. The sequence of the two disorders is after all only suggestive of the dependence of one upon the other; it is not an absolute proof. It is only the repeated observation of cases with similar histories in this respect that can establish the etiological relationship with some certainty. But it must not be demanded that because a certain eye disease is of nasal origin in some instances it should always depend upon the same etiological conditions.

Most of the writers on this subject have employed the third mode of reasoning—that is to say, the therapeutic test.

When they observed an improvement in certain eye symptoms after nasal treatment they reasoned that the nasal condition has been the cause producing them.

This mode of reasoning however, is beset with errors, against which we must guard ourselves. The prognosis is not always so certain in the class of diseases principally referred to, especially asthenopic

complaints, so that an improvement following any given treatment can be attributed to that treatment only if it sets in very promptly. We must be sure that neither other measures employed, nor the mere lapse of time are responsible for the patient's improvement.

Moreover, in estimating the beneficial results of any new treatment, particularly of a surgical character, upon nervous symptoms we must not ignore the possibility of mental suggestion. For these reasons as well as on account of the short period of their observation some of the cases and conclusions recorded in literature are not as convincing of the relation of the nose to the eye, as their authors claim.

When the question arises whether actual ocular lesions and not mere functional derangements are to be considered as secondary results of nasal disease the therapeutic test cannot be regarded as an absolute criterion. For lesions once started do not necessarily cease on removal of the conditions that induced them. In such instances the etiology can only be established on the basis of careful histories.

American authors have mostly dealt with functional derangements only, but cases published by Gordon, de Schweinitz and various European observers, as well as my personal experience, point out that also different lesions of the eye and its appendages may be of nasal origin.

On the basis of personal experience, and aided by the published observations of others, I shall attempt to classify the various ocular derangements dependent upon nasal disturbances, and will aim to distinguish critically between actual proof of such connection and mere probability of nasal origin.

I. In diseases of the *lachrymal passages* nasal affections are found present in the majority of instances [^{20 22 40} and personal experience]†. In speaking of nasal diseases or anomalies, I refer to demonstrable lesions or marked deviations from the normal shape, no matter whether they give the patient annoyance or not. If we were to diagnose nasal disorders only on the strength of the patient's statement as to the discomfort in the nose, we would overlook many instances of chronic disorders in the less observing class of people. On the other hand, whenever I speak of acute nasal catarrh, I do not rely on the patient's reference to a "cold," but demand a definite history of the symptoms of coryza.

The mere coincidence of nasal disorders, so common in our climate, with lachrymal disease, is far from being a proof of their correlation. Stronger, however, is the evidence that in one-sided lachrymal disease the affected passage corresponds almost invariably to the more abnormal side of the nose. A direct proof that the nose is the starting point of the disease of the tear-canal can only be obtained when an intelligent patient observes the insufficiency of the tear duct or the inflammation of the sac beginning during an acute attack of nasal disease. Of such instances I have a number in my records. I do not wish to overlook, however, that occasionally lachrymal disease, especially narrowing of the canaliculi, is the result of conjunctival disease.

The therapeutic test is not decisive in lachrymal affections. Neither in stricture of the duct nor in suppuration of the sac, can removal of the nasal lesions restore the integrity of the lachrymal passage

† The figures in brackets refer to the authors quoted at the end.

without surgical treatment of the diseased part. But that nasal treatment can aid the local procedures in maintaining the patency of the lachrymal passage is proven by the cases published by de Schweinitz,⁴⁰ as well as by some similar observations of mine.

It may be in place to point out a source of error in estimating the influence of nasal treatment upon diseases of the tear-passages. *Lachrymation* is not necessarily indicative of obstruction of the tear canal. An abnormal flow of tears may result from disease of the conjunctiva or eye as well as—in many persons at least—from nasal irritation, even when the tear canal is normal. On the other hand, an obstructed duct leads to an overflow of tears only when they are secreted in excess. Some patients with stricture, or even after obliteration of the sac, have epiphora only when the eye is irritated by wind. Nearly all authors who have written on the relation of the nose to the eye speak of lachrymation as a symptom produced by nasal irritation and cured by nasal treatment. The beneficial influence of nasal treatment, when undertaken in connection with local measures directed against the disease of the lachrymal passage, is therefore not a definite proof that the lesion in the duct or sac was cured thereby. It signifies only that the excessive reflex secretion of tears has been stopped.

II. The *eyelids* are the seat of occasional vascular disturbances in persons with irritative forms of nasal disease. The attacks may amount to a transient *circumscribed edema*, perhaps analogous to urticaria, or may resemble *erythema*, or even a *pseudo-erysipelatous* condition. The attack may be one-sided or bilateral. Hack¹ claims to have proven their nasal origin by several observations in which they followed the use of the galvano-cautery in the nose, while in some other instances their habitual recurrence ceased after nasal treatment. I¹⁵ have seen about half a dozen of such attacks, but have never had the opportunity to follow the results of nasal treatment for a sufficient length of time to prove the nasal origin by the therapeutic test. In every instance, however, there was the history of habitual nasal irritation with an acute exacerbation preceding the skin trouble.

Blepharitis has seemed to me to be dependent in some instances upon nasal disturbances. I have repeatedly observed the squamous form of this disease relapse during treatment when the patient got a fresh coryza. A few times, I have seen the inflammation of the lids cease spontaneously, after a cure of the coexisting nasal condition, for which the patient had applied to me. On the other hand, I have three times seen an ulcerative blepharitis, in which I could easily stop the ulceration by local measures, but could not remove the parenchymatous inflammation of the edge of the lid until I began to treat an atrophic rhinitis evidently maintaining the blepharitis. In these instances the condition of the lid improved in proportion to the amelioration of the nasal process.

III. Of diseases of the *conjunctiva*, I have seen not very rarely a *subacute conjunctivitis* occurring during the course of a fresh coryza. Its dependence on the nasal trouble seemed probable, because its course ran parallel to that of the coryza. While its intensity could be reduced by use of nitrate of silver or sulphate of zinc, it could not be checked with the same promptness as ordinary conjunctival catarrh. A similar conjunctivitis likewise rebellious to all

treatment, is often seen in hay fever. I have formerly described a form of periodic hypertrophic conjunctivitis allied to hay fever (*American Journal of the Medical Sciences*, April, 1886), but cannot say whether this condition depends on nasal trouble.

Chronic *congestion* of the conjunctiva is often observed in connection with chronic nasal irritation or stenosis, and will not be found to yield to any treatment except removal of the nasal anomaly. The congestion is not necessarily limited to the lining of the lids. Indeed, the history that an eye without active inflammation, is at times bloodshot, I have found to be quite characteristic of irritation of nasal origin. Such eyes are apt to be irritable. I have seen several cases of injection of the conjunctival and scleral vessels with considerable smarting or burning of the eyes maintained by protracted follicular inflammation of the pharyngeal tonsil, sometimes without marked discomfort in the throat. The dependence of the eye disturbance upon the pharyngeal infection, was shown by the prompt influence of applications of nitrate of silver to the inflamed adenoid tissue.

The conjunctival congestion may pass into *catarrhal* inflammation. I take this to be a secondary infection, because it is easily arrested by conjunctival treatment, but is apt to relapse unless the underlying nasal disorder is removed. But cases have also been reported, first by Gordon, and since by other American authors in which a severe chronic conjunctivitis with thickening of the mucous membrane did not yield to any local measures, but were promptly cured by the cure of a rhinitis.

Attention has been called by Ziem and by Despagne³² to the frequent coexistence of trachoma and nasal catarrh. There is no proof, however, that they are related to each other, although some observations like those of Taylor²⁶ make it not improbable that nasal trouble can account for the obstinacy of some cases of trachoma.

IV. A dependence of some *corneal* diseases upon nasal disorders is probable, but not yet definitely established. Trousseau²⁸ speaks of 11 instances of corneal ulcers which did not heal promptly until an ozæna present was treated. Yet the case given in illustration is by no means conclusive of any connection.

Phlyctenular keratitis and the *punctiform corneal infiltrations* of scrofulous children, are as a rule accompanied by a sero-purulent rhinitis.³⁸ In some instances, I have seen every relapse of this form of corneal disease preceded by nasal obstruction and discharge. Nasal disease does not, however, exist in all cases. The therapeutic test is rarely conclusive, though often suggestive of a nasal factor in the causation of phlyctenular keratitis. As a rule, the corneal trouble yields readily to local treatment. Still I have seen a fair number of children in which the corneal disease lingered while the nasal condition had received no attention, either on the part of other competent oculists or a few times in my own practice. In some of these instances the treatment of the rhinitis was followed by prompt improvement of the corneal lesion, in others, however, not.

Three times I have seen a very characteristic type of corneal disease in the form of flat papules on the limbus and pinhead-sized specks of infiltration in the cornea supplied with bundles of blood vessels comparable to the so-called fascicular keratitis. The in-

dividual lesions were of long duration, and left cloudy spots on the cornea, while relapses protracted the course for months. In every instance there was a marked diffuse hypertrophy of the nasal mucous membrane (not merely of the cavernous tissue) and with it thickening of the external nose. The pharyngeal tonsil was moderately enlarged in two of the cases. The disease was not influenced by any treatment. But the negative result does not exclude a nasal origin, for while the surgical treatment improved the patency of the nose it did not lead to full integrity of the nasal lining during the time of observation. Two of the cases got well spontaneously; the other one was lost sight of. (See also Ziem⁸.)

V. *Iritis* occurs occasionally though not frequently during an acute coryza. The possible connection between the two affections is emphasized by the statement of some intelligent patients with relapses of iritis, that every attack was preceded by acute nasal inflammation. Ziem¹⁷ has also noticed the occurrence of iritis in connection with suppuration of the nose and accessory cavities and thinks that nasal treatment exerted a distinct influence in one instance.

VI. *A not well defined intraocular affection suggestive of chronic glaucoma* has been observed—once by Berger¹³ following a galvano-caustic operation in the nose which resulted in necrosis of the nasal wall—while Ziem¹⁴ has reported three such instances caused by intra-nasal cauterization. The eye involved corresponded to the injured side of the nose. The patients had either slightly reduced central vision or what was more characteristic with it a restricted field of vision and diminished accommodation.

In Ziem's cases there was venous congestion and pulsation of the papilla. The sight improved spontaneously, but the histories do not proceed until complete recovery. Ziem^{23 24 27 29} subsequently reported several more observations in which similar symptoms, notably the restricted field of vision, occurred in patients with empyema of the maxillary sinus, but ceased after cure of the suppuration. Several times there was suspicious hardness of the eyeball. In two of the patients with disease of the antrum on both sides the sight of one eye had previously been destroyed by some intraocular process, apparently cyclitis. Lennox Browne¹⁶ also refers to a case of chronic glaucoma not benefited by iridectomy, but apparently arrested and the sight improved by the removal of nasal polypi.

Ziem attributes these attacks of reduction of sight, field and accommodation to intraocular congestion especially of the ciliary body. There is, however, no proof of their glaucomatous nature; they do not even correspond to the prodromal stage and excavation of the papilla was never present. The case mentioned by Browne is not described sufficiently to be intelligently criticized. I could find no other observation of this kind on record and have never seen the condition in any of my patients with empyema of the antrum.

VII. The *optic nerves* are separated from the cavity of the sphenoid sinus by a bony wall, frequently quite fragile and not rarely imperfect. Disease of the sphenoid sinus, suppuration, caries or tumors may hence lead to compression and neuritis of the chiasm and intracranial portion of the optic nerves. Berger and Tyrman¹⁰ collected 23 cases of this nature from the literature up to 1880, and in his latest monograph Berger⁴³ refers to 5 additional in-

stances. Some of them, however, were due to growths of the sphenoid bone, and hence cannot range amongst eye affections of nasal origin. Various authors seek the cause of retrobulbar neuritis in infection through the sphenoid sinus. However plausible this view may be, it is in no way proven, and the cases quoted by Berger⁴³ p. 37, are not convincing of such an origin.

VIII. *Neuritis of the nerves supplying the muscles of the eye* seems to depend occasionally upon nasal inflammation according to my own observations. During the past 18 months I have seen but three instances of paralysis of ocular muscles, the course of which characterized them as of peripheral, not syphilitic origin. In all these cases the paralysis was preceded by a severe nasal catarrh in the course of which persistent headache set in, which was then followed by the sudden paresis. Twice the nerve involved was the abducens, once the extraocular fibres of the third nerve. All three ended in recovery. The inference that the neuritis resulted from extension of the nasal infection was strengthened in one case by the existence of a polypus high up on the same side of the nose.

IX. *Orbital disease* may be simulated by morbid processes in either the frontal or the ethmoid sinus. As the consideration of such instances is almost foreign to our subject, I will refer simply to the reviews by Berger and Tyrman¹⁰ and by C. Stedman Bull.³⁹ But suppurative inflammation of these cavities may indeed penetrate into the orbit, leading to circumscribed *orbital abscess* as in the cases recorded by Peltessohn.¹⁹ To what extent the numerous instances of orbital phlegmon and of tenonitis observed after influenza, resulted from the extension of inflammation in the nasal and accessory cavities is a subject worthy of further study. Various instances of *orbital tumors* also took their origin from the ethmoid and frontal sinuses.^{10, 43}

In rare instances, neoplasms of the nasal cavity may also invade the orbit. Nieden⁹ reports two cases of malignant growth in the nose entering the orbit, one directly by perforation, the other by way of the cranial cavity. Personally, I have seen a cavernous growth of the nasal cavity extend into the orbit. The vascular tumor originating in the nose and filling one side of it completely, was radically removed by the use of the galvano-cautery in the course of some ten weeks. During the course of treatment, the orbit became invaded by a vascular new-formation, presumably of the same nature as the nasal tumor. This however, receded again spontaneously, and after the lapse of some three months, there remained no evidence of any orbital tumefaction.

The orbital congestion and tumefaction, together with the other disturbances which constitute *exophthalmic goitre* have in a few rare instances been entirely removed by the treatment of intra-nasal anomalies. The fact that there are but seven observations of this kind on record, shows that a nasal origin of this disease is a very rare occurrence. But the prompt disappearance of the symptoms—usually so persistent—of Basedow's diseases after nasal treatment in six⁶ of the instances, is as decisive a proof of their dependence upon the nasal anomaly as any therapeutic test can furnish.^{1*}

*Hopman, Deutscher Naturforscher Congress 1883, reprinted in Berliner klinische Wochenschrift 1888, No. 42. Haack, Deutsche med.

In another striking case reported by Semon (*Internat. Centralblatt f. Laryngologie*, VI, p. 238) one-sided exophthalmus and palpitation of the heart were provoked by a galvano-caustic operation in the nose, but subsided after the lapse of a few days.

X. The most common ocular affections of nasal origin are the *sensory* and *functional derangements*. In my experience, I find that in every 100 patients applying on account of refractive anomalies or asthenopic complaints, there are about two to three instances with subjective symptoms curable by nasal treatment. The nasal origin of these symptoms can be proven only by the therapeutic test, for which there is a proper field whenever no cause for the complaints can be found in the eyes or their muscles. There is nothing characteristic in the history of these cases. The annoyance from the nasal trouble may or may not be slight. The development of the eye symptoms is generally gradual, but sometimes they occur in a more acute form during the acute aggravation of a preëxisting nasal disease. The anomaly causing them is most commonly some obstructive lesion in the nose often, though not invariably, associated with nasal irritability. A few times I have also seen marked ocular discomfort produced by subacute follicular inflammation in the tonsils or at the vault of the pharynx.

a. The eye symptoms described by authors [^{5 6 7 11 12 15 18 21 25 26 30 31 33 36 41}] as of nasal origin, are itching, burning and smarting of the lids, shooting pains through the eyes, sometimes a heavy, full feeling, but not often an actual ache. Characteristic of the nasal origin is their presence immediately on awaking. Usually there are remissions in the severity of the annoyance during the day. Sometimes there is associated with this discomfort, more or less injection of the conjunctiva, even of the eyeball and lachrymation. The sensitiveness to light may be exaggerated to an extent causing tonic blepharospasm, but often, too, there is no photophobia or irritability.

The eye-discomfort due to nasal disease is in some persons not increased by use of the eyes. In others, however, all eye work intensifies the symptoms so as to render steady use of the eyes impossible. I have formerly¹⁵ come to the conclusion that this asthenopia is of mixed origin. Most of the sufferers of this type show on examination some refractive or muscular anomaly. If this is corrected they can use their eyes with greater ease, but yet are not free from discomfort. If on the other hand, the nasal condition can be cured the patients enjoy comfort while they rest their eyes, but require their glasses for work. The cases published by De Schweinitz⁴¹ seem to conform to this view. I do not think, however, that this combination of refractive (or muscular) asthenopia with nasal influence is accidental. It has seemed to me that the nasal influence renders the nervous system sensitive to a degree of eye strain, which normal persons with the same optic conditions can usually bear without discomfort. Some of my patients have indeed been able to drop their glasses without suffering some time after the cure of the nasal disorder.

Wochenschrift 1888 No. 25. Fraenkel, B., Berliner klin. Wochenschrift 1888, No. 6. (Goitre and cardiac symptoms without exophthalmus.) Stoker, Internat. Centralblatt f. Laryngologie, V, p. 579. (Two cases.) Musehold, Deutsche med. Wochenschrift, 1892, No. 5. (Goitre and cardiac symptoms, no exophthalmus, but one-sided ocular pain, cured by removal of a small hypertrophy from the rear end of the inferior turbinated body.)

There are, besides, other instances in which nasal lesions alone, cause typical asthenopia for work even in emmetropic persons. In my experience this type has not been common. A striking case has been reported by Kibbe.⁴²

Hoffman⁴ has called attention to asthenopia due to failure of the accommodation in persons with cheesy accumulations in the tonsils, and claims to have cured such patients by treatment of the tonsils. I have likewise been able to benefit a number of young persons by excision of the tonsils or destruction of the distended crypts. In my cases, however, I could not demonstrate an absolute diminution of accommodative power, as measured by the distance of the near point, but the strain or blurring on use of the eyes seemed to depend on an inability to maintain continuously the required accommodative effort.

b. Another functional trouble which in some instances seems of nasal origin is fugitive scotoma or blind headache. Hack¹ p. 36, describes two instances of this kind in which the spells of migraine with scotoma scintillans ceased after galvano-caustic destruction of excessive cavernous tissue in the nose. I have seen a number of instances in which a connection between such attacks, and the nasal condition was suggested by correspondingly one-sided obstructive lesions with irritative symptoms during the attack. But I have only had opportunity twice to satisfy myself of the persistent cessation of the blind spells after successful nasal treatment.

c. Blepharospasm can sometimes be traced to nasal influence. Persistent closure of the lids may result from the photophobia engendered by nasal disease, as reported in an extreme instance by Bettman,¹² or by supuration of the maxillary sinus as seen by Nieden.⁹ But cases also occur in which clonic spasms of the lids, or even chorea of the orbicularis and facial muscles, are stopped by the removal of nasal anomalies. Ziem⁸ has seen such cases subsequent to the removal of enlarged pharyngeal or faucial tonsils. Jacobi (*N. Y. Med. Record*, January 30, 1886) has also called attention to the influence of nasopharyngeal disease in the production of facial chorea. Personally I have seen not very rarely chorea of the lids and of the face in children suffering from subacute rhinitis, in whom the gradual cessation of the muscular twitching in proportion as the nasal disease was improved can be considered positive evidence of the nasal influence. In some instances I have been able to demonstrate the nasal origin by means of the calming effect of a cocaine spray. In others, however, the experiment with cocaine, as well as the result of treatment, have led me to attribute the chorea to irritation proceeding conjointly from both morbid nasal and diseased conjunctival surfaces.

Two observations reported, the one by B. Fraenkel (*Berliner Klin. Wochenschrift*, No. 22, 1884), the other by Peltetsohn (*Berl. Klin. Wochenschrift*, No. 32, 1891), show that even typical one-sided tic spasmodic, involving the orbicularis as well as the other facial muscles, may be a reflex of nasal origin.

d. The possibility of reflex contractions of ocular muscles in consequence of nasal lesions is illustrated by a singular observation published by Quinlan,³⁷ in which convergent squint occurred after a fracture of the nasal septum, lasted ten years, and disappeared spontaneously after operative correction of the deflected bone.

In trying to answer the question how nasal disorders can lead to these eye symptoms and lesions, we must take into account four possible modes of causation:

1. Processes of growth cause the extension of tumors through the sinuses into the orbit or into the cranial cavity. Hypertrophies also may involve mechanically the nasal end of the nasal duct.

2. By extension of infection through lymph vessels, through foramina or deficiencies in the bony walls, or along continuity of surface, inflammatory processes may pass from the nose into the orbit, may reach the intracranial portion of the optic nerve, or may creep into the lachrymal sac. Clinical observation shows that this spread of infection is favored by narrowness of the nasal passage, or by obstructions interfering with the drainage of pus.

3. Circulatory disturbances may occur in the form of venous congestion whenever mechanical conditions exist in the nose which impede the circulation. This is particularly the case in nasal obstructive lesions. We can often see the resulting stasis in the form of dark venous rings around the lids, and in the congestion of the edges of the lids. The anatomical conditions which determine the involvement of the orbital and palpebral veins in nasal disturbances are the anastomoses between these vessels and the veins of the nose, which connections vary in different subjects. Besides the passive venous engorgement, there may occur active congestion of the conjunctival, and perhaps also of the intraocular vessels, in connection with acute or irritating nasal inflammations, comparable to the congested zone surrounding any inflammatory focus. Both the active and the passive vascular disturbances are probably accompanied by interference with the lymphatic circulation. That this disturbance of nutrition should reduce the resisting power of the ocular tissues to accidentally present germs, is a presumption supported by many pathological observations.

4. Lastly, the nasal influence may consist in nervous disturbances—the so-called reflexes. This is evidently the mode of production in blepharospasm of nasal origin, and in abnormal lachrymation. Vascular disturbances may also be of reflex origin, as can be demonstrated by irritating the nasal mucous membrane in sensitive persons, or by extracting a hair at the entrance of the nose. Some of the sensory derangements of the eye are likewise due to the irritation of the sensory nerve of the nose, a proof of which can sometimes be given by the calming effect of nasal spray of cocaine. To call them reflexes, however, is a misuse of a physiological term. A better name would be sensory neuroses of peripheral (*i. e.*, nasal) origin.

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HETEROPHORIA AS A CAUSE OF ACUTE RHINITIS, LOSS OF SMELL AND TINNITUS AURIUM.

Read in the Section of Ophthalmology at the Forty-third annual meeting of the American Medical Association, held in Detroit, Mich., June, 1892.

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That diseases of the nares affect the functions of the eyes unfavorably in many directions, is a well accepted fact the confirmations of which are numerous and constantly increasing. In some ways it has been recognized that disorders of the eyes disturb the functions of the nares. Thus all those eye diseases that increase or diminish or render ichorus the secretion of the conjunctiva and lachrymal glands, definitely modify unfavorably the functions of the nares, often exciting severe inflammations which can only be relieved by the abatement of the disordered secretion, or the rendering of it normal in quantity and quality. Farther, it is a matter of record that defects of refraction by inducing disorders of the conjunctival secretions modify the functions of the nares in many important particulars.

Thus a disorder of the eyes may originate in a disorder of the nares, and a disorder of the nares may originate in a disorder of the eyes. My purpose is not a discussion of these intercurrent relationships in general, but to present a single observation upon a single point among these relationships. By this I hope to show that in one instance a condition of exophoria uncomplicated with any other discernable abnormality did induce an acute rhinitis, a loss of the sense of smell, a tinnitus aurium, and a general nervous prostration. The instance I give briefly.

On July 24, 1891, Miss G. H. applied to me for relief from severe and frequent attacks of acute rhinitis, tinnitus aurium and loss of smell. She was a strong healthy appearing woman, single, a type writer by occupation, and twenty-eight years old. She said that aside from these troubles she had never been sick, and had been able to follow her calling during the past twelve years without scarcely a vacation. Her troubles began very gradually, but she was able to show that they had existed for at least a