the amount of intra-nasal affection. Very little trouble in the nose may give rise to reflex phenomena of great magnitude, and *vice versa*. This fact has many times led to a mistaken diagnosis, as the nares have been pronounced normal when there was present a sufficient amount of inflammation or irritation to give rise to severe reflex trouble. Nor does it by any means follow, when we have to deal with a cough or a supra-orbital neuralgia in a patient presenting marked hyperæsthesia and disease of the nasal mucosa, that the cough or neuralgia is reflex and produced by the evident intra-nasal lesion. The cough may be due to laryngitis and the neuralgia to malaria, and there may be no connection with the nasal disease. Many a nose has been sprayed and burned and cut, and all in vain, for the relief of a symptom which had no connection with the nose. A hypertrophic turbinate does not always give rise to serious trouble, and it is not always necessary to straighten a crooked septum, or cut off a small cartilaginous septal spur.

Since it is probable that the cause of these reflex phenomena may be found in the nose and in a dyscrasia, it is well to direct our efforts at cure in two directions, viz.: to rid our patient of the intra-nasal disease, and at the same time to give attention to the underlying dyscrasia. However skeptical we may be as to the good effects of drugs, we would hardly dare to treat a patient manifestly a subject of lues without mercury and iodide of potash. And if a patient has a periodical supraorbital neuralgia, with an enlarged spleen and a well-marked cachexia, we would not content ourselves with cauterizing the turbinates, however large and inflamed they might be, but would at the same time administer the bark and arsenic and iron to meet the indications for constitutional medication.

The character of the constitutional dyscrasia will determine the constitutional treatment. Just so of the local treatment. Whether a septal spur is removed by a snare, or saw, or drill, or galvano-cautery, so that in the end it is well removed, makes but little difference. Treat the local disease so as to remove it as rapidly as possible, with as little resulting damage to the intra-nasal mucosa.

In these reflex disturbances it becomes apparent that the specialist should be broad in his ideas, not viewing the whole world through his nasal speculum, or not expecting to see the cause of all bodily ailments reflected in his rhinoscope.

AN EASY AND SIMPLE METHOD OF PREPARING MACROSCOPICAL SPECIMENS OF THE EYE.

Read in the Section of Ophthalmology at the Forty-First Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY J. H. THOMPSON, M.D.,
OF KANSAS CITY, MO.

At many of the large clinics both at home and abroad a quantity of valuable pathological material is wasted because there has been no easy or simple way to preserve it. This is particularly true in ophthalmic institutions, where the attendants are not usually experts in pathological technique or are too busy to attend to the details necessary for a proper mounting of a specimen. If it were not that preparations of the diseased eye are often very valuable the excuse "want of time" would be acceptable, but the result of a little time and work in this line is often so gratifying, that I feel justified in calling your attention to the method I pursued in the preparation of this specimen. Perhaps it is unfortunate that in the hardening process much time is consumed which cannot be avoided, but the technique is easy and can be acquired by following closely the method herein advised. When the eye is removed wash it in cold water, wrap it in a piece of paper and freeze it hard by inserting it in a box of cracked ice and salt. It should remain not less than an half hour in the freezing mixture, remove it, and quickly with a sharp knife or flat razor cut off two sections, one should extend from the cornea to the equator of the eye opening the anterior and vitreous chamber but should avoid injuring the lens if possible. It is only necessary to open the anterior chamber in one place so that the hardening fluids may easily pass in, the other section, much larger than the first, should be cut from opposite surface of the eye and should extend from the edge of the cornea to the posterior pole of the eye on a plane corresponding to the horizontal visual plane and parallel to the optic axis. If the eye is well frozen this can be done without crushing the organ or disturbing the relation of the internal structures, but the lower cut must be so even, that when the eye rests upon a flat surface the scleral edge is in contact all round. The object is that being thus placed upon a piece of glass, when the vitreous fluid melts it will be retained within a scleral cup and hold the internal membranes and structures exactly as they were before the eye was opened. Of course it may be necessary to make the openings at other places to avoid cutting away the bases of tumors or certain diseased parts, but

¹ Ueber eine Operative Radical-Behandlung bestimmter Formen von Migraine, Asthma, Heufieber, etc., 1884.

² Die Anwendung der Galvano-Kanistik, Vienna, 1872.

³ Archives of Laryngology, Vol. iii.

⁴ Berliner Klinische Wochenschrift, 1882, No. 25.

⁵ Amer. Jour. of Med. Sciences, July, 1883.

⁶ Transactions A. L. A., 1883.

⁷ Revue Mensuelle de Laryngologie, December, 1885.

⁸ France Médicale, Vol. ii, 1885.

⁹ Annales des Maladies de l'Oreille, du Larynx, etc., 1886.

¹⁰ Diseases of Nose and Throat, p. 487.

¹¹ Diseases of Nose and Throat, Vol. i.

¹² New York Medical Record, 1886.

¹³ Amer. Practitioner and News, 1887.

¹⁴ Jour. of Amer. Med. Assoc., 1887.

¹⁵ Op. cit.

¹⁶ Op. cit.

¹⁷ Trans. A. L. A., 1885.

wherever made they should be as near opposite as possible.

Have ready a glass quart jar half filled with Müller's fluid, and a watch glass, which has glued to it with paraffine four long threads, place the frozen specimen flat on the center of the glass and holding the whole horizontal by suspending it by the threads, lower it into the hardening fluid and fix it an inch or so from the bottom of the jar. I usually use a cork stopper and by passing the threads through a hole in the centre can lower or elevate the specimen without disturbing it. The specimen should remain in Müller's fluid at least six weeks, which should be changed four times. At the end of that time it is ready for alcohol. Remove the eye from the bichromate of potash solution and wash it in a large quantity of water, being careful that during the washing process it is not injured. It is then placed in dilute alcohol twenty-four hours, 90° spirit four hours, and finally absolute alcohol, where it should remain until it is certainly dehydrated: twelve hours is sufficient time. From the alcohol it is transferred to a bottle of turpentine where it should stay until the turpentine has penetrated freely all the tissues, especially the sclerotic coat. It will do so in twenty-four hours, when the specimen has a transparent amber look.

Wherever turpentine will go melted paraffine will follow and inasmuch as we desire to paraffinize the specimen it is only necessary to keep it in melted paraffine long enough. Ordinarily paraffine melts at about 135°, so if the preparation is kept in an oven at that temperature or on a water bath it will suffice, but it is difficult to hold the temperature between 140° and 150° without a thermostat, consequently many men have neither the time nor the patience to carry out that part of the process. In the winter season the steam radiators in our office buildings have a temperature ranging from 130-150 degrees, so if the bottle containing the paraffine is placed on one of these the work can be done without watching and without danger of overheating. Place the bottle holding the eye and an ounce or so of turpentine in a temperature ranging from 130-150°. I usually put the bulb of the thermometer in the fluid and keep it there; from time to time put in pieces of the hardest purest paraffine; by pouring off the fluid, a few drams at the time and adding paraffine to make up the loss, the spirits of turpentine will be finally eliminated when the specimen will be saturated with melted paraffine in which it should remain at least two days. If the temperature should go down and the whole solidify, no harm is done, it can easily be remelted. Some advice to remove the specimen from turpentine directly into melted paraffine. In the eye it will not do, since the heat drives off the spirit from the scleral coat when the paraffine will not thoroughly penetrate, which renders the specimen useless.

The specimen is now ready for the cast. Make a strong paper cylinder one and one-fourth inch in diameter and two inches long, put an ordinary prescription paper on a flat surface, and pour some of the paraffine upon it, enough to cover a space larger than the base of the cylinder; remove the eye from the bottle and quickly place it flat in the centre of the paraffine disc on the paper; it will stick; then cover it with the paper cylinder which should not touch the specimen but should be pressed down into the hardening mass. Fill the mould full with the paraffine from the bottle and let it stand until it is hard. The cast in ordinary weather will not be thoroughly hardened inside of six hours.

If the cast is put in the clamp of a microtome very thin slices can be cut off, but since the best part of the specimen is one-third of an inch or more from the upper surface it is well to carefully pare away the cast either with a very sharp knife or better by working the instrument until the desired part is reached, resharpen the knife and make a section about one five-hundredths of an inch thick. To prevent the section curling some instruments have fixed to the knife a flattener, but an ordinary business card held edgewise on the section as it is cut will keep it flat. If the specimen is properly prepared the cast will be solid and contain no air bubbles, so when a thin slice is cut off of it, it will be without a break and hold a perfect section of the eye.

Procure from a photographer some old negatives, clean them and cut them into slices four inches long by one and one-half inches wide; have on hand some cover glasses one-hundredth inch thick, two by one one-fourth inches square; make a fixer of collodion and camphor chloral two parts to one. With a camel's-hair brush paint the collodion mixture on the slide over a space larger than the section, which should be then carefully laid upon it and covered with a piece of paraffine paper; it may then be pressed flat with the ball of the thumb. I usually flatten with an ordinary knitting needle; remove the paper, place the slide on a heated surface about 140°, until the paraffine begins to melt and the fixer turns opaque. The section is thus glued fast to the glass slide, so when the slide is put in a bottle of turpentine the paraffine is dissolved away nothing remains but the anatomical tissues. The slide may remain in turpentine indefinitely. From turpentine transfer to alcohol in sufficient quantity to dissolve out the turpentine, then to distilled water in which it may be stained by any of the ordinary aqueous stains. I prefer logwood stains for that purpose. When sufficiently colored the specimen is dehydrated in spirits and absolute alcohol, clarified with the oil of clover or spirits of turpentine, and mounted permanently in Canada balsam.

This process, called the paraffine imbedding,

has been extensively used by Dr. Reeves, of Chattanooga, but it has not been recommended in eye work, the celloidion having been considered the best. I have not succeeded with that method so well as I have with the one advised, and I believe that if you will follow the plan suggested in this paper, especially as regards the freezing and hardening process you will succeed by mounting some beautiful and valuable specimens.

CASE OF SARCOMA OF THE CHOROID —OPERATION—NO RECURRENCE IN NEARLY THREE YEARS.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

BY A. G. SINCLAIR, M.D.,

PROFESSOR OF DISEASES OF THE EYE, EAR, AND THROAT IN THE MEMPHIS HOSPITAL MEDICAL COLLEGE; SURGEON IN CHARGE OF THE EYE AND EAR DEPARTMENT OF ST. JOSEPH'S HOSPITAL, MEMPHIS, TENN.

Malignant intra-ocular growths are of so much importance that every case of the kind should be placed on record, and especially the results of treatment, whether favorable or otherwise, in order that we may learn at what stage of development the disease passes beyond the control of remedial measures. I therefore beg to occupy your time briefly with a report of the following case:

In June, 1887, I was consulted by Mrs. K., 40 years of age, who reported that three years previously she had lost the sight of her right eye while suffering from symptoms which, according to her description, were very like those of acute glaucoma, and that the organ had continued more or less irritable up to the time of presentation. On examination I found vision extinct; conjunctiva moderately injected; pupil somewhat dilated, and motionless; iris discolored; lens cataractous; tension plus 1; pain in the eye, forehead and temple. Although suspecting the presence of an intra-ocular growth, I determined, as my patient was a lady, and cosmetic effects were therefore not to be ignored, before proceeding to enucleation to test the power of iridectomy to overcome the glaucomatous symptoms above enumerated—knowing that if an intra-ocular tumor were indeed present they would soon reappear and render positive the indication for removal of the eyeball.

I performed the operation accordingly, and relief of several weeks' duration followed. The symptoms then recurred in all their former intensity, and on August 14 I enucleated the eye under etherization. Entire relief from all symptoms followed; the patient made a good recovery from the operation, and soon regained her strength and spirits, previously much depressed by her sufferings.

I sent the eye, hardened in alcohol, to the laboratory of the College of Physicians and Sur-

geons, New York, for examination, whence I received in due time the following report:

NEW YORK, November 23, 1887.

Dr. Sinclair, Memphis, Tenn.

Dear Doctor:—The microscopical examination of the eye sent to the laboratory is as follows:

Cornea.—The cuboidal cells of the anterior epithelium are distorted and separated from each other by larger and smaller irregular shaped spaces (probably due to drying in the air). There are also a number of spindle-shaped cells among the cells of the anterior epithelium. At the sclero-corneal junction there are a few scattered pus cells. Lying against the posterior epithelium of the cornea is a layer of spheroidal cells.

Iveal Tract.—Iris is swollen and ciliary bodies flattened on both sides. The choroid just behind one of the ciliary bodies contains a mass of small spindle-shaped cells about 5-7 mm. in diameter.

Retina and Opticus.—Rods and cones absent from retina and there is an increased amount of interstitial tissue. In places the retina is changed to a connective tissue lamina. The optic disc shows a moderate degree of excavation.

Anatomical Diagnosis.—Small spindle-celled sarcoma of the choroid, interstitial retinitis, optic excavation, circumscribed purulent keratitis. Very respectfully yours,

IRA VAN GIESON.

Nearly three years have elapsed since the operation; the patient continues in vigorous health, and there is no sign of a recurrence of the disease.¹

54 Madison street.

A VEST POCKET OPHTHALMOSCOPE CASE.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

BY FRANK TRESTER SMITH, A.M., M.D.,

OF CHATTANOOGA, TENN.

LATE ASSISTANT SURGEON, NEW YORK OPHTHALMIC AND AURAL INSTITUTE.

I present to the Section an ophthalmoscope case made for me by Meyrowitz Bros. in 1886, and which I have had in constant use ever since. It is made like a spectacle case, the open end being closed with a tightly fitting lid, or like a flattened pencil case such as is used by school-children. It is made of stiff pasteboard, or other light material, covered with morocco.

It presents the following advantages over the form in ordinary use:

1. Size. This is such that it can be carried in the vest pocket. The thickness is about half that of the wooden case.
2. Weight. Being smaller and made of lighter material, it is not as heavy as the ordinary form.
3. Shape. There are no corners and the edges are rounded off.

¹ There is still (Dec., 1890) no sign of a relapse.