under the individual instruction of the professor. This is especially important for the laboratory and clinic courses. In addition to the clinics at the dispensary, those at the Piedmont Hospital in Charlottesville are utilized.

Under the laws of the University, each professor charged with the duties of instruction is required to give his whole time to the collegiate work, and hence the courses are of unusual thoroughness.

Wm. M. Thornton, LL.D., Chairman of Faculty.

UNIVERSITY OF VERMONT, MEDICAL DEPARTMENT.

BURLINGTON, VT.

The thirty-fourth annual course of lectures will begin in January and continue six months, ending in July.

This extension of the term will increase the scope of the instruction, and prove of great advantage to the student. The preliminary term has been abolished. No private courses by any of the professors will be tolerated by the faculty.

Instruction will be given in the following branches: Anatomy, physiology, chemistry, materia medica and therapeutics, practice, obstetrics, surgery, diseases of children, medical jurisprudence, neurology, ophthalmology and otology, gynecology, dermatology, venereal diseases, pathology and bacteriology, hygiene, sanitary science and examinations for life insurance.

Laboratory courses at this college in urinary analysis, histology, pathology and bacteriology, and practical work in physical diagnosis, surgery and demonstrative obstetrics, are now compulsory.

The instruction is given by scholastic and clinic lectures, by recitations and by practical manipulations by the student.

The clinic advantages are in many respects unsurpassed.

For further information address A. P. Grinnell, M.D., Dean.

WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS.

MILWAUKEE, WIS.

The fourth annual course of lectures will begin September 22. The length of the course is twenty-seven weeks, exclusive of the holiday vacation, the term ending on April 5, 1897.

This institution adopted the four-year course in 1895, and all students matriculating this year and hereafter will be required to spend four years in college work, unless their previous studies have entitled them to apply for advanced standing.

The fees for the course, including laboratory and lecture fees, and anatomic material, are \$95.

Clinic cases are furnished by the Presbyterian Hospital, which is in the exclusive control of the faculty of the college, and by the College Free Dispensary.

W. H. Washburn, M. D., Secretary.

Caroid.—A vegetable digestive ferment, derived from the plant known as *carica papaya*, or "paw-paw" (not the indigenous plant but an exotic found growing wild in Polynesia and now cultivated in most tropical countries). Caroid is a concentrated extract of the juices of the plant, made by cold methods, thus preserving the ferment in all its strength and freshness. Its action, contrary to that of pepsin, on the one hand, which acts only in acid media, and of diastase, pancreatin, etc., on the other, which act only in alkaline media, is equally good in both acid and alkaline fluids. The dose is from $2\frac{1}{2}$ to 5 grains.—*Nat. Druggist*, September.

GONORRHEAL CONJUNCTIVITIS; ITS TREATMENT.

Read in the Section on Ophthalmology at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY LOUIS J. LAUTENBACH, A.M., M.D., PH.D.

Surgeon to the Pennsylvania Eye and Ear Infirmary; Nose and Throat Physician to the Odd Fellows' Home; late Chief of the Eye Clinic of the German Hospital, etc.

PHILADELPHIA, PA.

Conjunctival diseases are among the most frequent of eye affections, but each year as the general practitioner's special knowledge increases, he undertakes more and more the treatment of the inflammatory eye affections, especially of the appendices of the eye, and, in consequence, the specialist sees less and less of these troubles, except when present in an aggravated form. The study of conjunctival diseases is not only important in relation to their treatment but as they are very often symptomatic of other local or general conditions it is especially necessary to have a most intimate knowledge of their various aspects. Again their seriousness is not so much *per se* as in a weakening of the surrounding structures, thus giving rise to secondary inflammatory conditions.

Of these conjunctival inflammations there are several which are specific or general in their origin, bearing a marked resemblance to each other which can be traced not only in their origin but in their course and treatment as well. I refer especially to the diphtheritic, epidemic, gonorrheal, blennorrhic and trachomatous forms of conjunctivitis. All are occasioned by a specific germ and therefore all are contagious, all except the latter appear as localized epidemics, and formerly this was present often as an acute epidemic; all are of an acute type and rapid in their progress, all extend rapidly to various adjoining structures, especially to the cornea, tending only too often to the production of most serious lesions. In fact, blindness as a result of these specific inflammations is only too prevalent. This entire class of inflammations should be directly under the supervision of the State. A move in the right direction has been the passage of laws for the reporting and proper treatment of cases of ophthalmia of the newborn, which have now been passed by the legislative bodies of numerous States.

Blennorrhic conjunctivitis, the ophthalmia of the newborn and the gonorrheal conjunctivitis of the adult, are in many ways the most important and serious of eye inflammations, causing more than one-tenth of all the existing blindness, and in addition, occasioning partial loss of sight in twice as many. While the gonorrheal form is less common than ophthalmia neonatorum, it is not the less virulent and its results are often more serious. Some years ago I was assured by a member of the staff of a prominent general hospital that up to that time no case of gonorrheal conjunctivitis had left the institution without having lost the sight of one or both eyes. So serious were these cases looked upon in the immediate past that many institutions refused to receive them, basing their refusal both on its contagiousness and its origin; undoubtedly the bad results obtained had some weight in occasioning such a decision.

The ill results following a case of gonorrheal conjunctivitis can usually be attributed either to the usual indisposition of the patient to admit the cause of his trouble or his want of knowledge thereof, occasioning the consequent delay of treatment; second,

the rapid progress of the disease with the consequent swelling of all the tissues in and about the eye, occasioning destruction of important eye structures by pressure and interference with the circulation and nutrition of the parts; third, a want of thorough cleansing; fourth, a want of proper treatment.

The first of these is sufficiently familiar. How often do we see these cases progressing even to the pustular stage without application for treatment having been made, either because the patient did not recognize the ailment, or recognizing it, hoped to conceal it. In this way considerable mischief is often done before aid is sought. The seriousness of the disease is occasioned more by neglect of prompt treatment than aught else; a day lost may mean the loss of the sight. The public generally should understand that in eye diseases a stitch in time saves not only nine, but sometimes a whole lifetime of darkness.

The rapid progress of the disease, extending within two or three days through the infiltration stage with distended lids and chemotic conjunctiva into the pustular one with sometimes, almost simultaneously, ulceration and breaking down of the cornea, is unfortunately too frequent. To one unaccustomed to such cases or not having a true realization of their violence and virulence, the progress may be so rapid that serious results are produced without sufficient effort having been made to avoid them. In these cases the rapidity of the disease should be anticipated and guarded against by appropriate advice and treatment.

The need of thorough cleanliness is apparent, but the method of its accomplishment may not be so clear. Cleanliness in such cases means the effective removal of all discharges on the conjunctiva and in the folds thereof, and the decomposition and removal of all discharges and gonococci which may lie in the various minute fissures and crevices between the epithelial cells of the superficial layers. In these cases the cleanliness must be considered part of the treatment, and usually is the most important part. Many will recover without other treatment, whereas, local applications without cleanliness will often avail nothing; it is the one essential to be adhered to religiously.

To thoroughly cleanse an eye the seat of a gonorrheal inflammation is often no easy task. The swollen lids with the tenderness and photophobia make it peculiarly difficult, and when there is maceration or ulceration of the cornea it is yet more so, as there may be the added danger of bursting the ball by the necessary manipulations.

I will outline the method which in my work I follow as rigidly as circumstances will allow. I first wipe off the lids and any discharge which appears between them with a piece of absorbent cotton saturated with a 3 per cent. solution of peroxid of hydrogen. I invariably use the Oakland peroxid on account of its comparative purity and freedom from acidity. I then instill between the lids, with a pipette, about twenty or thirty drops of the same solution and continue this until there is little or no bubbling. I then evert the upper lid and instill into the opened palpebral folds more peroxid, and then wipe the parts with absorbent cotton wet with the solution. I then treat the lower lid in the same way, being sure to thoroughly cleanse the cul-de-sac. I replace the lids and gently rub the ball at all parts of the lids, with the finger tips. I then take a saturated solution of boric acid and repeat with it all the manipulations described

above, doing this very thoroughly and using the solution liberally.

The peroxid cleanses the surface and serves to destroy any diseased conjunctival epithelium and penetrates the crevices and interspaces where the pus and gonococci have collected and decomposes these masses, bringing the detritus to the surface. Allowing the peroxid to lie in contact with these diseased structures for a few minutes serves to so thoroughly decompose them that they are readily removed by the subsequent washing with the boric acid solution. This solution not only washes off the foreign matters but also relieves the burning sensation of the peroxid and while soothing the eye serves to produce a healing effect upon the ragged but healthy epithelial cells. In addition to this personal cleansing of the eye which I insist upon doing at least once or twice a day, the patient is to have his eye thoroughly cleansed by the nurse with a saturated solution of boric acid at least every hour and in some cases every half hour. If the swollen condition of the lids renders this cleansing difficult, the severity of the disease makes it only the more imperative.

It seems evident that no treatment can exercise its normal effect without the thorough cleansing above described. These cases are of such a nature that the neglect must be eliminated—the treatment must be most vigorous and thorough.

The local medicament of most value in these cases is undoubtedly the solution of nitrate of silver. In all the germ diseases of the conjunctiva its use is invaluable. I use it of a strength of from 10 to 60 grains to the ounce—the more severe and active the inflammation, the stronger the solution. It is to be applied thoroughly with a cotton wound probe (never with a brush) over the palpebral conjunctiva, carried into the cul-de-sac and then to the ocular conjunctiva, carefully avoiding the cornea. This application is to be made by the physician once or twice a day as necessary and is to be followed by the instillation of 4 or 5 drops of castor or olive oil which eases the pain and lessens the friction of the roughened and diseased conjunctival surfaces. In addition to this personal application, a one or two grains to the ounce solution of nitrate of silver is to be instilled into the eye by the nurse from two to four times a day, invariably after washing with the boric acid solution. If the cornea be ulcerated, the treatment is to be as thorough as is consistent with safety, avoiding the use of the strong nitrate solution on the cornea or its accidental access thereto.

If chemosis be present, I invariably incise the conjunctiva in numerous deep lines radiating from the cornea so that the subconjunctival infiltration may gradually find vent and thus afford sufficient room for the natural increase in the amount of the exudate, and at the same time by decreasing the tension, lessen the abnormal pressure on the corneal border.

In addition to the above, I use ice bags and iced cloths whenever the inflammation is peculiarly virulent, or there is very much swelling of the lid or chemosis, and use atropia or eserine locally whenever I have corneal involvement, the choice depending upon the tension of the ball as well as the location and extent of the ulceration and the general constitutional peculiarity of the patient; in those inclined to rheumatism, all other things being equal, I always prefer to use eserine. I have also found ice to be invaluable in the early stages of corneal involvement,

when the cornea first appears hazy. In fact in all corneal inflammations I have found the use of ice peculiarly beneficial in preventing the disorganization of this tissue.

A matter which I have not touched upon but which is of supreme importance, is the prevention of the disease attacking the sound eye. This is accomplished by thorough attention to the affected eye, which I hope I have fully explained, and preventing the discharge of the diseased eye from infecting the sound one. This is attempted by many by closing the healthy eye with a watch glass or adhesive plaster, carefully applied. I formerly built a dam of shoemaker's wax upon the bridge of the patient's nose, carrying it well down toward the tip and up on the forehead, directing the patient never to lie upon the unaffected side. While still occasionally using this method, I rely more on the bandaging of the sound eye and its regular daily cleansing by the physician before he treats the affected one. The cleansing is that outlined above, consisting first of the use of a 3 per cent. peroxid of hydrogen solution followed by thorough cleansing with a saturated solution of boric acid, then drying the eye and covering it thoroughly with a roller bandage, first dressing the eye with absorbent cotton covered with waxed paper.

By this method of bandaging, even though the discharges soak into the bandages, the waxed paper prevents their access to the eye, and should the germs surmount this barrier they will be absorbed by the cotton wad, which is an efficient sterilizer, and even though it were possible to penetrate through this they will meet a closed eye, which they can not enter. Another advantage of the bandaging is the rest given the healthy eye, thus preventing excessive motion in the diseased eye, and it will be found that corneal involvement will be more rare, and when it occurs it will be less severe.

In a few words the treatment can be summed up as rigid cleanliness carried to the extent of destroying and removing the gonococci and all the broken down cells, with sufficient stimulation afterward to increase the normal cellular activity, stimulating thus the reparative processes, meeting the complications as they arise, promptly and vigorously. The treatment of the unaffected eye to consist of rigid cleanliness with slight stimulation, careful bandaging and exclusion of the discharges from the diseased eye.

THE USE OF CICATRICIAL SKIN FLAPS IN THE OPERATION FOR ECTROPION OF THE UPPER LID.

Read in the Section on Ophthalmology, at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Georgia, May 5-8, 1896.

BY F. C. HOTZ, M.D.
CHICAGO.

In my paper on skin grafting read last year at our meeting in Baltimore, I pointed out the superiority of Thiersch's skin grafts over the thick skin flaps usually employed in the operations for ectropion of the upper lid. I said, "occasionally, however, the skin flaps taken from the vicinity of the everted lid possess all the conditions necessary for a perfect cosmetic result." I had in mind the thin, glistening cicatricial skin which usually covers the vicinity of the everted upper lid. In several cases where the eyebrows had been destroyed to such an extent that a

large flap could be cut from this cicatricial skin above the lid, I used such skin flaps as a substitute for the lost lid skin, and found that, contrary to the general belief, these flaps could be transplanted as successfully as the flaps of normal skin, and that their use has

FIGURE 1.

several decided advantages over all other methods of transplantation.

FIGURE 2.

For these reasons I wish to report a case in which a cicatricial skin flap was used: In January, 1889, a boy 14 years old was admitted to the Illinois Charitable Eye and Ear Infirmary to be relieved of complete ectropion of the upper lid of the left eye and lower lids of both eyes, the result of extensive caries