different toxins as a possible, if not a probable, cause of both glaucoma and cataract.

In a recent case of glaucoma, in which excellent iridectomies had been made by an eminent Scotch surgeon, and in which only a remnant of sight remained, there were evidences of extensive choroiditis. The poor woman, finally in perfect health, had lost every tooth. She said that during the years in which she was steadily going blind she suffered constantly from toothache. It is well known that no sanitary precaution has been more neglected among the poorer classes, and even among the fairly well-to-do, than the care of the teeth.

One can readily understand from the cesspools that one finds in the mouths of those from whom more would be expected that these must be never ending sources of infection. I think that we will find, too, if we go outside of our special lines of work, that there is not a patient who comes to us, with commencing striae in the lens, who will not be found to have impaired metabolic functions. There will be a greater or lesser degree of intestinal indigestion, with the resultant absorption of toxic products. And if we would avoid the final degeneration changes, which so often are presented to us, we must seek for all possible sources of infection before the damage has been done.

454 Franklin Street.

ABSTRACT OF DISCUSSION

DR. BURTON CHANCE, Philadelphia: It is difficult to get at the chemical reactions going on in the ocular tissues, and the results of the observations of careful observers have often been disappointing. Certain general states of depravity justify us in assuming that deleterious compounds are manufactured which act on the ocular tissues, but it is difficult to link up well-marked signs of degeneration with any bodily ailment. The origins of degenerations in conjunctiva and cornea are obscure, in so far as their presence has been unaccompanied by the classical signs of inflammation. In a number of cases of nodular degeneration of the cornea, sometimes more than one in a family, colleagues skilled in laboratory examinations have failed to elucidate their origin in physicochemical and other processes, as, for instance, diabetes. The ophthalmologist, therefore, views the whole subject as all but metaphysical, yet he is daily confronted by problems in which he finds in diseased eyes calcareous, crystalline or colloidal products of inflammation which interfere with function or destroy the organs. Can it be that ordinary senile dissolution depends on the wearing out of the cell? Dr. Lewis' reference to cases of uveitis dependent on disease of the dental structures reminds me of similar cases. From teachings received I have insisted on examination of the teeth and gums in all cases of uveal and protracted tarsal and conjunctival diseases, as well as before operations on the eyeball. It has been my observation that delayed recovery after uncomplicated cataract operation has never occurred in subjects with good teeth.

Prostitution and the Army.—It is a matter of history that prostitution follows the army. In all the European armies at the present time vice and its consequences constitute one of the most serious, if not the most serious, of army problems. In some of these armies the wastage from venereal disease has been frightful. . . . From the standpoint of military strength and efficiency, such waste is serious. From the standpoint of social wholesomeness, it is more serious; for it means that not only will these men bring back into the social structure a vast volume of venereal disease to wreck the lives of innocent women and children, but they will bring back into it other influences, attitudes, and practices which will destroy homes, cause misery, and degenerate society.—M. J. Exner, M.D.

OBSERVATIONS ON TREATMENT OF FOOT CONDITIONS

C. L. LOWMAN, M.D.

LOS ANGELES

In the treatment of arch conditions by various men, and in the general literature on the subject, the relation of the transverse and longitudinal arches of the foot is not dwelt on much. I wish to call attention to a few facts regarding it.

Nearly all the anatomic and mechanical points regarding the bones of the foot and the parts they play, alone and together, in the function of weight bearing and locomotion have been ably dealt with in many special articles, and I can add but little to them. It is in regard to the clinical use of such knowledge that I wish to speak. Briefly, let us recall that anatomically we speak of two arches in the foot largely for convenience, and that actually the structure of the foot is dome shaped, doubly concave on the plantar aspect.

The weight is properly borne on the periphery, the short lateral curves having a definite relation to the long anteroposterior curves. In the more common static conditions, such as pronation, depression of the arches, "foot strain" and "weak foot," the weight is not thus borne. It is shifted inward so that the bones no longer resist the downward thrust, and the ligaments, which are required to assist in sustaining the body weight, gradually weaken and lengthen under the overload. This lengthening of the plantar structures, with the lowering and tilting of the dome, changes all its curves, and the foot becomes longer and broader than normal.

The lack of appreciation of these facts is evidenced in the plating and shoeing in many of the foot cases which I have had an opportunity to observe. I am sorry to say that some of these patients have been in the hands of orthopedic surgeons.

When the foot elongates, the distance from the os calcis to the head of the first metatarsal is lengthened in proportion to the relaxation and weight, while the phalanx remains unchanged in length. The anterior half of the foot becomes broadened in proportion to the depression, pronation and eversion, while the heel remains practically of the same breadth. Now, for a shoe to be fitted correctly, the "hinge" or breaking point of the sole should come directly under the first metatarsophalangeal joint. If a relaxed, pronated foot is so fitted, the shoe will then project beyond the great toe a distance equivalent to the amount of lengthening of the long arch due to the change in the metatarsal angle. If such a foot is so fitted and no lateral correction is made by raising the inner border of the heel, it will be encouraged to keep on lengthening, because there is not even the resistance of the laces and leather across the dorsum to prevent it.

As most patients will not be so fitted, women especially, the shoe will in consequence be too short; and when the forward thrust occurs in the metatarsal region, the toes will be crowded forward into the narrowest part of the shoe. As the shoe becomes softer and looser from age, the joint line of the foot will be pushed beyond the hinge of the sole, and faulty back pressure will occur against the heads of all the metatarsals and they will be depressed. The result will be worse in either case entirely in proportion to the amount of tapering in the toe of the shoe. If the shoe

is not straight lasted on the inner border, or the "swing" of the outer border is not very "full," as in the broad type of shoes, the toes will be increasingly cramped. Likewise the ball of the foot or cross arch in front will be depressed in accordance with the hollowness of the sole.

Patients have come to me unrelieved by treatments with plates and shoes recommended and given by orthopedic surgeons. Examination of the shoes, which often had been made to order at an expense of from \$18 to \$25 a pair, showed that the chief consideration had been to obtain a good grip of the heel and tilt it outward, and the toe of the shoe had been modified to placate Dame Fashion. They were made entirely too narrow to give relief from all symptoms, particularly those in the fore foot. There are many so called "anatomic," "orthopedic" and "foot form" shoes on the market which are designed without much consideration for the toes and fore foot except to be made a little wider, rounder, or of a more common sense type than the average shoes worn by women.

Many patients get relief at first because the change is radical; but if they have not been told to come back and have plates and shoes changed to meet the changes in the feet, they keep on wearing the same style and size of shoe because some prominent surgeon or orthopedist prescribed it. They do not realize that if a depressed arch is to be restored to normal and the arch plate and the shoe are to do any good except to relieve pain, the foot must become shorter and narrower. It cannot do this if the patient continues to wear a certain size plate in, say, a No. 5 shoe; when the normal foot measurement would call for a 3 or 4 shoe.

I have the same criticism to make in regard to stock or shoe store plates, which are indiscriminately prescribed and are even advocated and advertised in reputable medical journals. The average store plate is absolutely wrong mechanically. It is really a valgus shaped plate too long on the inner border and too short on the outer border. It usually has no lateral concavity and tips the foot inward into the opposite position from which it should be. To correct a valgus, the foot must be put in varus, a simple fact we all know. Yet I have seen surgeons prescribing and using plates that only increase the trouble. If the person with the flattened foot wears a No. 6 shoe, the clerk puts on a plate of corresponding size, which fits the patient and thus violates one of the commonest rules in orthopedic practice, namely, that patients should be made to fit the apparatus and not vice versa.

Certain conclusions must be drawn from such practices. The surgeon or practitioner is ignorant of the subject, or uses a stock plate because he can buy it cheaply in quantities and make a profit on it; or he is satisfied to have his patient obtain some relief from pain, to receive his fee and get rid of the patient; or he recommends certain plates and shoes because he sees them advertised in medical journals and demonstrated at medical conventions. Many seem willing to relieve pain and obtain fees rather than run the risk of losing a patient, especially a society patient, by insisting on what they know to be a correct shoe and what a normal foot should wear. They also neglect to follow up the foot needs until structurally it becomes as nearly normal as possible.

Now that the whole subject of body alinement is receiving attention, it seems to me that nothing should be more impressed on the general practitioner, the

surgeon, and the more inexperienced in orthopedic ranks, than the importance of foot posture and the correct surgical use of shoes. Furthermore, as much emphasis should be laid by them on the fact that they should expect and require their patients to use a correct shoe, when they prescribe it, just as they would expect them to take medicine prescribed for some functional derangement.

THE ENDONASAL OPERATION ON THE LACRIMAL SAC*

WILLIAM B. CHAMBERLIN, M.D.

CLEVELAND

To many it may seem a presumption for a rhinologist to enter the sacred domain of this section and discuss a subject so intimately the field of the ophthalmologist. The *Grenzgebiet* is still a cause for strife between surgeons as between nations. My own hope is that in the domain of medicine, at least, it may soon be transcended by that higher aim, "the ultimate good to the patient," just as in national life it may ultimately be a question of "the greatest good to the greatest number." Then will humanity and benevolence rather than selfishness be the guiding principle in men's lives.

The demands of modern medicine become each day more extensive and exacting, and the specialties each day more circumscribed in their limitations. Whereas, in this country at least, it is but a short cry back to the times when the same individual encompassed, or attempted to encompass, within his domain, the diseases of the eye, ear, nose and throat; such a condition exists as a rule today only in the relatively smaller communities. Ophthalmology has come into its own as a distinct specialty, just as otology bids fair to do in the not too remote future. This assumption of authority and finality in our own limited field makes us in a way more than ever dependent on help from our fellows, according to the extent to which that field affects or is affected by the field of our fellow worker. So the ophthalmologist, who calls in the rhinologist to perform an endonasal operation on the lacrimal sac, is no more of an anomaly than the internist who invites the technician of his field, the surgeon, to perform an operation for appendicitis; the surgeon who invites the otologist to perform an operation on the mastoid process; or the rhinologist who calls to his aid the dentist in his care of a diseased antrum, or to complete the result of his tonsil and adenoid operation by attending to the proper alinement of the child's teeth. Here is an instance in which team work and not selfishness, but mutual cooperation, spells success for both, and assures, or helps to assure, a successful outcome for the patient. My own cases are only those which have been referred to me by the ophthalmologists. In fact, I have no opportunity of seeing such cases in any other way.

Until a few years ago, according to West,¹ the treatment of dacryostenosis had made no real progress for a period of twenty-five years. In 1910 West published his paper entitled "The Window Resection of the Nasolacrimal Duct," and exhibited in all seven patients operated on by this method. This paper, as

* Read before the Section on Ophthalmology at the Sixty-Eighth Annual Session of the American Medical Association, New York, June, 1917.

¹ West: Berl. klin. Wchnschr., 1914, 51, 1633; Arch. f. Laryngol. u. Rhinol., 1913, 27, 224, 504; Berl. klin. Wchnschr., 1913, 50, 926.