

in a clean spot must have been rather considerable. They could never be properly cleaned, and it was quite out of the question going near them to see that they were so." By the Inspector's orders "61,600 running feet of *pucca* drain" was removed, other means provided for storm water, and a new pattern of stone latrine or privy introduced consisting of a pair of parallel drains V-shaped in section, each leading into a "moveable naund" from which the filth was removed daily and emptied into a covered cesspool outside the walls which, when full, was covered in with mortar.

In lieu of "night privies" in jail "when the prisoners cannot be allowed to adjourn during the night to the privies in the yard," (!) earthen pans were placed in sand in the centre of the ward.

In connection with these important innovations, opinions were asked for (and are here published in an appendix) from Magistrates and Civil Surgeons as to the effects on the amenity and salubrity of the jails. All with three exceptions were favourable to the change. They may be epitomised in the words of the Magistrate of Gorakhpur: "There can be no comparison between carrying of all the filth of the jail bodily and throwing it away at a distance and the old system of stinking privies and almost equally offensive drains."

At the same time it appears clear that in this matter as in matters of diet and clothing the Inspector had very little actual authority over the management of individual jails. The District Magistrate, specially if supported by the opinion of the Civil Surgeon, was able to defy or evade, as appears in several instances, the recommendations or "instructions" of the Inspector of Prisons.

The report does not throw much light on the internal economy of a jail. There existed, however, a form of dual control. The "Rules for a Prison Guard" informs us that, "as the safe custody of the prisoners within the jails is vested in the officer commanding the guard, the stationing of the sentries is to be regulated by him." "The cleanliness and distribution of the prisoners in the yards and wards by night and day rest with the jailor, but the guarding and safe custody of the prisoners within the walls of the jail by day and by night shall be the duty of the jail guard." "The native officer of the guard with a naik and four shall accompany the darogah, and turnkeys on locking up at night, and unlocking in the morning, noting down on a 'tuktee' the number of prisoners in each ward and the total number in the jail. After the prisoners have been locked up for the night, the keys of the outer wicket shall be lodged with the officer commanding the guard and the keys of the wards and cells with the jailor."

The number of the "contingent guard" was laid down for each jail according to local circum-

stances, and the pay ranged from Rs. 5 for a sepoy to Rs. 30 for a subadar. The advantage of substituting intra-mural for extra-mural employment is clearly recognised in a circular of 1854. The proportion of guards to prisoners in outside gangs was one to five and inside the jail one to ten or more, and by a circular of the following year the economy resulting from the smaller number of guards required is utilised to raise to Rs. 6 and Rs. 7 per mensem, the pay of those "contingent barkandazes" employed exclusively within the jail, who now formed a separate "intra-mural contingent or discipline guard."

The pay of a "barkandaz" in 1861 appears to have been only Rs. 4 per mensem (for extra-mural work) for in that year the Local Government authorises its increase to Rs. 5, where owing to increased intra-mural employment of prisoners the number of guards was reduced.

For every 10 barkandazes there was to be a daffadar on Rs. 10, and for every 20 a jamadar on Rs. 15, "and whenever the number of working prisoners permanently confined within the jail exceeds 250, there shall be a higher grade of officer to whom the general supervision of the workshops shall be entrusted."

The permanent guard of the jail is stated to be appointed solely for the following purposes:— "Escorting under-trials to and from court, escorting transports from one district to another, escorting treasure or other municipal purpose at the requisition of the civil authority." But the whole expense was borne by the jail budget and the guard was entirely subordinate to the Inspector of Prisons in every respect. But shortly after the Mutiny, at any rate as early as 1861, police guards were lent "for watch and ward of jails, *i.e.*, to guard the jail itself and be present to suppress any émeute on the part of the inmates," the cost being debited against the jail concerned.

THE EXTRACTION OF THE LENS IN ITS CAPSULE (SMITH'S OPERATION) BY DIVISION OF THE SUSPENSORY LIGAMENT.

By V. B. NESFIELD, F.R.C.S.,

CAPTAIN, I.M.S.,

Civil Surgeon, Kamrup, Assam.

THE removal of the lens in its capsule for cataract does appear on account of its thoroughness and cleanliness to be the ideal operation, especially so in India, as one does not often have an opportunity of removing opaque capsule should it occur.

But, personally, I have found the operation difficult to perform and, moreover, dangerous as a persistent attempt in a stubborn case leads to escape of the vitreous.

In every case of cataract I have tried to remove the lens in its capsule but have only succeeded in about one out of every ten cases.

Perhaps, I should rather say that I have been afraid in nine cases out of ten to use sufficient force; the one case being that one in which the gentle force applied has ruptured the suspensory ligament.

That is to say, that the patients I have had to deal with possess nine strong suspensory ligaments to one weak one.

To overcome this difficulty, latterly, I have divided the suspensory ligament and the results have been excellent.

The operation.

Having made the incision and done the iridectomy, a cystotome is passed between the iris and the lens till its point is well beneath the iris and beyond the circumference of the lens in its capsule.

The instrument, which has been passed with its cutting point directed outwards, is now turned so as to divide the suspensory ligament.

The point is swept round the circumference of the lens so as to divide the inner, lower and outer portions of the ligament.

The cystotome is then again turned so that its point may look side ways and escape damaging the capsule.

It is now carefully removed.

The lens with its capsule will now be found to be free on three sides and a very little pressure will deliver it.

But, should the upper and remaining portion of the ligament still offer a dangerous amount of resistance to the delivery of the lens in its capsule, then the presenting "cataract," should be grasped with the fixation forceps. This ruptures the capsule, the greater portion of which is carried away in the forceps while the lens is very readily delivered.

ALYPIN WITH SPECIAL REFERENCE TO ITS HITHERTO UNDESCRIBED CYCLO- PLEGIC ACTION.

BY W. E. SCOTT MONCRIEFF, M.D.,

MAJOR, I.M.S.

I BEGAN to use alypin when I returned from furlough in 1905 and since then I have done 150 cataract extractions and many other eye operations under alypin anæsthesia. I have come to the following conclusions regarding its anæsthetic action. In these operations I used a one or two per cent. solution. I now use it in four per cent. solution.

Conjunctiva.—Alypin has less anæsthetic effect on the conjunctiva than it has on the cornea and iris; thus a second and third instillation causes as much smarting pain as the first instillation; and sub-conjunctival injections cannot be made painlessly under alypin anæsthesia.

In performing extractions of the lens under alypin anæsthesia I have often observed that

the patient winces as the section is being finished, especially if the knife is blunt; this is probably due to the pulling of the forceps on the imperfectly anæsthetised conjunctiva. Further, the effect of alypin in diminishing pain in the active treatment of trachoma and allied conditions is disappointing. Even pure alypin in powder has little effect in such cases and in itself it causes pretty severe pain. Maynard has noted this imperfect action of alypin on the conjunctiva (*I. M. G.*, Feb. 1906).

I no longer use alypin for extractions as I consider cocaine to be better.

Cornea.—The effect of alypin on the cornea is fully equal to that of cocaine; it causes no œdema of the cornea nor shedding of the corneal epithelium as cocaine sometimes does and it acts more rapidly than cocaine. It is thus eminently suitable for operations on the cornea, such as cauterization and the removal of foreign bodies and for the examination and treatment of sensitive eyes.

Iris.—On the iris the anæsthetic effect of alypin seems to be slightly less than that of cocaine. I have used it for many iridectomies, but have returned to the use of cocaine for this operation.

Interstitial injection.—When it is injected hypodermically, the anæsthetic effect of alypin appears to be equal to that of cocaine and for hypodermic use it has two advantages over the latter: it acts much more quickly and it is not dangerous as cocaine undoubtedly is.

I have found few references to alypin in ophthalmological literature. Lieutenant-Colonel Maynard had a short note on it in the *I. M. G.* of Feb. 1906, and he mentions having done a number of extractions of the lens under alypin anæsthesia.

In the American Journal of Ophthalmology of November 1907, Frank, of New York, wrote an article on it. He quotes several cases in which a four per cent. solution gave perfect results. These included operations for chalazion, trachoma and strabismus, but only one cataract extraction.

In that excellent book "Leçons de thérapeutique oculaire" by Dr. A. Darier, of Paris, there is a very good chapter on local anæsthetics. For six months Darier entirely replaced cocaine by a 4% solution of alypin in one of his wards. His findings are much the same as those I have noted. He considers that though alypin is sufficient for simple extraction a cocainisation of at least twenty-five minutes or else a sub-conjunctival injection of alypin is necessary for an iridectomy. He recommends the sub-conjunctival use of alypin for iridectomy in glaucoma where cocaine is contra-indicated by reason of its mydriatic action, but he records one case of this kind in which the alypin caused marked dilatation of the pupil. He sums up by saying "For my part I shall in future use alypin or stovaine, which I consider almost identical, in