glandular portion, to which Mr. Shattock has given the name "cortex." To its presence is due the small amount of bleeding and the absence of urinary extravasation. Indeed, in the so-called total prostatectomy, the enucleating finger never passes outside the limits of the prostate, and, therefore, cannot enter the recto-vesical fascia or tear the prostatic plexus of veins.

ADDENDUM.

Since the above was written, the specimen (see Figs. 16 and 17, p. 244) has come to hand.

It was obtained from R. O., a male, aged 81, who was admitted to St. Thomas's Hospital in November, 1903, suffering from retention of urine. The bladder had been twice opened for retention. The patient was extremely ill, and beyond giving relief by a third suprapubic opening nothing was done. Death followed in a few hours.

At the necropsy there was found intense haemorrhagic cystitis, double hydronephrosis, and dilatation of the left ureter. The bladder with its enlarged prostate was removed from the body, the membranous urethra being cut across at its commencement. The bladder was then opened on its anterior surface. The intravesical projection of the prostate was of the "os uteri" type. The operation of so-called total prostatectomy was then performed on the parts in an exactly similar way to that adopted in the living subject. The process of enucleation was very easy.

This specimen fully bears out the contention that a definite envelope formed of expanded prostatic tissue is left behind after the so-called total prostatectomy.

NOTES ON MYIASIS.

By CAPTAIN P. S. LELEAN, R.A.M.C., F.R.C.S.ENG.

THERE would seem to have been a somewhat strong prejudice against flies as remotely as the time of the fourth plague of Moses, 1491 B.C., and it is interesting to follow the development of that prejudice into the definite knowledge of the present day, when the researches of the entomologist and the pathologist have shown how important a part is played by winged insects in the etiology of human disease.

Since the geographical distribution of the larvae which cause myiasis is almost co-existent with that of the order *Diptera*, extending as it does from the Shetlands to the equator, the study is obviously not of merely tropical interest; nor can it be said to concern only the biologist when it is observed that a series of 38 cases, recently collected by Maillard, of *Cnipsomyia* larvae showed a mortality of 55 per cent.

Referring to ancient records we find that in 1582, Ambrose Paré described a maggot passed per urethram which he calls "oniscus." This is the first of a series of 30 such recorded cases, the second being in 1641, and the last—published by Dr. Foster Palmer recently—being a larva of *Homalomyia scalaris* (house-fly).

A definite attempt was made by Baier in 1740 to place the subject on a more scientific basis in an article entitled "De generatione insectorum in corpore humano."

In 1787, we read of a case of "Violent pains from worms under the skin," which worms were "near an inch long, all in joints in the back, with hard scales," and the theory of infection by insects is only tentatively advanced as a mere speculative explanation of a pathological novelty.

Clarke in a brilliantly illustrated and able contribution to the transactions of the Linnean Society in 1797 establishes the relation between larvae and oestridae, elucidates the

confusion involving the classification of the latter, and incidentally combats some suggestive fallacies of his day: one *re* the ovulation of *Oestrus haemorrhoidalis* suggested by the quotation "Mire per anum intrans" showing the need for an illuminating contribution to the literature of his day.

In 1824, a really interesting case was reported from the sister isle. A lady, after a prolonged geophagism, became subject to constant vomiting, and produced quite a remarkable biological collection, in which, among many strange beasts, dipterous larvae "literally teemed," larvae, pupae, and imagines being curiously ejected together. One realizes the paucity of accurate knowledge in the last century when one reads that it inspired "a feeling of horror to see them (the larvae) frisking along, occasionally expanding their jaws and extending their talons," and although the doctor himself witnessed the extrusion of these forms, it is impossible not to be a little sceptical of the patient's bona fides, when one reads that she invariably concluded by "chanting the Litany at full length in a clear and beautiful voice."

In 1842, an eminent London physician writes: "I saw hundreds of worms escaping from the skin of her body, the carpet was covered with them where she stood while dressing.....they had a power of ejecting themselves to a distance of from 12 in. to 20 in."—a startling fact, but confirmed in 1899 by Lieutenant-Colonel J. Smith, who saw dipterous larvae spring a distance of 3 ft.

Coquerel, writing in 1858 *Des Larves des Diptères développées dans les Sinus Frontaux*, makes this lament: "Ces faits sont peu précis et laissent beaucoup à désirer sous le rapport scientifique;" and twenty years later Cobbold responds in his "Entozoa," giving a list of species of reputed dipterous parasites under no less than fifteen headings.

1880 brings the record by Blandet of a case of spontaneous cure of *Homalomyia scalaris* by a surfeit of sorrel. The growing

interest in myiasis is shown by the reading of a paper on this subject before the International Congress of 1881 by Dr. Smith of Dublin. In this he gave a brief summary of the progress in the classification of parasitic diptera from the time of Humboldt, who describes the *Oestrus humanus*. Smith contended that there is no *Oestrus hominis* peculiar to man, that human larval parasites are all muscidae, and quoted the extraction from Dr. Livingstone's leg of a muscid larva in Central Africa.

In 1882 two cases of migrating larvae appeared, on specu-

lated segmented specimen, 13 mm. long, being removed from the back of the neck after a three months' journey from the right ankle, leaving an indurated track.

Of more recent years, perhaps the most curious biological contribution is that of Dr. Folker of Guatemala on the gusano worm. The ovulation of this mosquito-like fly was observed to be effected as follows: The proboscis is inserted in the skin; the long body is arched until the "tail" (? ovipositor) is passed along it as along a director; then, erecting itself on its hind legs to a convenient angle, a full charge of ova is passed deeply into the cavity, a boil ensuing in three days.

From a pathological standpoint Colonel David Bruce's recent demonstration of the rôle of *Glossina palpalis* in sleeping sickness stands alone in importance.

While on service recently with the Anglo-French boundary Commission in Northern Nigeria my attention was drawn to this subject by the occurrence of ecto-parasitic larvae on natives near the Sokoto Arc (7.18 N., 13.29 E.). I secured two larvae and hatched the flies. On submitting these to

Auchmeromyia luteola, Falr.

Mr. Austen, the dipterologist of the British Museum, he identified them as specimens of *Auchmeromyia sealaris*, Fabr., and I am indebted to him for the scientific description of fly and puparium accompanying the figure. Of this accurately-defined species no larva has previously been described as a human ecto-parasite. The larva is of the usual muscid type, twelve-segmented with hooked mouth-armature.

DESCRIPTION OF THE FLY.

Mr. Ernest E. Austen, of the Zoological Department, British Museum, has been good enough to supply the following brief description of the fly:

Family, MUSCIDAE.

Auchmeromyia luteola, Fabr.

Musca luteola, Fabricius. *Systema Anthorum*, p. 286 (1805).

♂, ♀. Length, 10½ mm. to 12 mm.; length of wing, 10½ mm.; width of head, 3½ mm. in ♂, 4 mm. in ♀.

A rather stoutly-built fly, orange-buff in general colour, but with the distal half of the abdomen blackish.

Head, orange buff, with the eyes wide apart in both sexes; *thorax* somewhat darker than the base of the abdomen, with a faint greyish bloom, and marked with two indistinct blackish longitudinal stripes, which do not extend to the hind margin of the thorax; *abdomen* in the ♂ with the hind margin of the first segment very narrowly, the hind margin of the second segment more broadly, a more or less complete forwardly tapering medium stripe, the whole of the third segment except the extreme base, and two large lateral blotches on the fourth segment, meeting, or nearly so, in the median line—blackish. In the ♀ the blackish area on the abdomen is greater, since it includes in addition the whole of the second segment, except a more or less narrow band at the base. A striking sexual difference is to be seen in the second abdominal segment, which in the ♀ is twice the length of the same segment in the ♂. *Legs* orange-buff. *Wings* faintly brownish but entirely devoid of blotches or other markings, so that the veins are plainly visible.

The chitinous pupa-case of this species is of the usual reddish-brown colour and barrel-like shape common to the Muscidae; it measures about 11 mm. in length, by 4½ mm. in greatest width.

The two specimens bred at Maradi by Captain Lelean are both females, and exhibit a divergence from the normal type in that their abdomens are almost entirely orange-buff in colour and show but little trace of the blackish apical half as described above. Two other specimens caught by Captain Lelean's boy at the same place are, however, perfectly normal, so that I am inclined to think that the pallor of the bred specimens is probably due to immaturity.

TREATMENT.

To conclude with a few notes on treatment:

In gusano worm the natives (1) occlude the orifice of the cavity in which the larva is contained by a piece of stamp paper, the air-breathing parasite, being thus asphyxiated, can be expressed; (2) cover the aperture with a tobacco-leaf, the nicotine poisoning the grub.

Dr. Folker uses a hypodermic of chloroform which so paralyses the larvae that he has by this means expressed as many as fourteen in less than two minutes, a velocity which commands respect. The *Dermatobia noxialis* (screw worm) is killed in the frontal sinus by carbolic injections of a 2 per cent. solution.

In the auditory meatus the larvae often cause so much tenderness as to make mechanical extraction impossible. A little calomel blown into the meatus is said to cause their death and spontaneous extrusion.

Lieutenant-Colonel J. Smith, writing of Indian experience, found maggots ingested in mangoes most difficult to dislodge, a fact not to be wondered at when they survived five minutes' immersion in pure carbolic acid. One patient passed from fifty to a hundred larvae daily for twelve months, and intensely feared their eating through the intestine. One case was cured by enemata terebinthinae; another was on butea frondosa, and in a third—parasiticide having no effect—scybala were produced by opium, and the embedded maggots came away by subsequent use of purgatives and enemata.

Finally, in huts infested by diptera, if cones of dried pyrethrum powder be burnt, the flies fall stupefied to the floor, whence they can be collected and burnt.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

VASECTOMY FOR ENLARGED PROSTATE.

Is the operation of vasectomy abandoned? Having regard to the much more serious one of prostatectomy now being advocated, I think the following case is worthy of being placed on record, the patient having been continuously under my observation from 1896 to the present time. I must premise that I was an absolute sceptic as to the utility of excision of the vas deferens, and only did it at the express solicitation of my patient, and I plainly told him previously that I did not expect it to be of any good.

A gentleman of fat and flabby physique, aged 58, married no family, of very regular habits, abstemious in all respects, came under my observation in May, 1896, for symptoms of enlarged prostate, frequent micturition both night and day, urgent need to respond quickly to the call to do so, occasional difficulty in passing urine even to almost absolute retention, urine only being voided by drops and with extreme pain and violent strain. The prostate was felt to be uniformly enlarged like a medium-sized apple. The urine was fairly clear, only clouded with mucus; no pus or albumen. These symptoms continued with more or less severity until the operation. On seven occasions he came to what he describes as a complete stoppage; these were always gradually relieved by free purgation with salines (I may here remark that of all treatment of retention from enlarged prostate, that of active purgation is the best). His less urgent symptoms in the intervals were kept in abeyance by rendering the urine alkaline, frequent hot baths; yet, notwithstanding every care and leading a most judicious life, his condition was one of chronic invalidism, and anxiety as to recurrent retention of urine. No catheter could ever be passed, even under chloroform, though there was no stricture of urethra or spasm, or pain on attempting to do so.

On July 17th, 1901, I excised about 1 in. from the right vas deferens. He experienced no discomfort, and was up and about in six days. From this time he has had no difficulty in micturition or occasion to seek medical aid. I have written to him at intervals asking particularly as to his condition, and have always had replies expressing his perfect satisfaction with the results of the operation, and that he was quite well. His last letter, dated August 17th, 1903, is as follows:—

In reply to your inquiry, I am very glad to say that I have no difficulty with passing water, and have had none since the operation, neither have I had a stoppage since the operation, and I am most certainly convinced that the operation has been beneficial to me.

On August 20th, 1903, I personally examined him, when the only criticism I could make was the right testis felt more flabby than the left. He is now 66 years of age. He was for six years under my care, suffering more or less continuously before the operation, and for over two years since the operation I have never heard of him excepting when I wrote to inquire.

Ryde.

THOS. ALPH. BUCK, M.B.Lond.

CASE OF FACIAL PARALYSIS FOLLOWING FORCEPS DELIVERY.

Mrs. G., aged 23, primipara, was confined on March 13th, 1903. The pelvis was narrow, and forceps had to be applied to extract the child, a good deal of force being exerted both by traction and compression.

When she was visited next day the child was crying, and it was quite evident that he had paralysis of the left side of his face. The mouth was drawn to the right side, which was puckered, the left being full, and the right eye was closed, while the left was open. When the child slept both eyes were closed. In addition the head was deviated to the left side, and there was a convergent squint, the left eye looking directly forwards, but the right cornea being right under the inner canthus. There were rhythmic twitchings of the left arm and leg, and when crying became more violent, the right arm and leg became affected similarly, but to a less extent.

Next day (15th) the twitchings of the left side were still present on crying, but not so marked as before. On the 18th these had quite gone, as had also the deviation of the head to the left; and the squint was less marked. The child rapidly improved. For the first week he had to be