

the sheep or pig, and, admitting that much canine physiology is contained in some of the text-books of human physiology, it certainly is not convenient for the veterinary student to have to hunt for it there.

The matter is divided into 21 chapters, of which one is devoted to the physiology of the horse's foot; and there are 50 illustrations, mostly simple, but excellent for their purpose. The arrangement of the matter is good, and the language is eminently clear. In fact, the book from first to last is written in a style that makes it most readable, and even the drier facts of physiology, such as those relating to chemical composition, are made as interesting as it is possible to make them.

We have said enough to indicate that we have formed a high opinion of the merits of the book. It is a credit to its author, and, indirectly, to the profession to which he belongs. It will form a valuable addition to the too small list of good veterinary text-books, and we trust it will have the large sale which it deserves. It ought to be added that the manner in which the publishers have done their share of the work leaves nothing to be desired.

The Law of Horses. By D. Ross Stewart, M.A., LL.B., Advocate.
Edinburgh: William Green & Sons, 1892.

THIS work treats of the principles, enactments, and cases in Scotch law that relate to horses. While it therefore is less restricted in its scope than the title might lead one to expect, the author does not absolutely confine himself to the state of the law in Scotland, but refers also for illustration to English authorities, and points out differences between the legal systems of the two countries. He also cites cases relating to other subjects than horses as authority for the general principles of contract, fraud, and negligence which emerge in transactions about horses. The law is treated of under the following headings: sale, warranty and sale for specific purpose, hiring and loan, custody, carriage by land and water, responsibility for the negligent use of horses, defences to actions of damages for injury to horses and caused by them, damages, and insurance. In the chapter on custody, the law relating to the responsibility of veterinary surgeons, smiths, and farriers is described; and, among other things given in an appendix, there is a summary of the Veterinary Surgeons Act of 1881. The book is likely to prove exceedingly useful to all who are in any way concerned in horse transactions in Scotland, and for veterinary surgeons in particular it will probably be a good investment.

CLINICAL ARTICLES.

VARIOLA EQUINA.

By HARRY OLVER, F.R.C.V.S., Tamworth.

THE above disease with an extraordinary sequela has recently come under my notice, and, being quite unable to account for the latter, I send this short history of the outbreak, with the hope that it may be the means of unravelling the mystery.

On the 18th of December 1891, a message arrived from Mr J. L. (six miles away) requesting our attendance. My assistant (Mr Pickworth) went and found six horses in one stable ill.

I should say that these were ordinary farm horses, doing different classes of work on a light-land farm every day ; but, in the winter months especially, they were frequently sent into Birmingham (eight miles) with different kinds of produce, and brought back town manure. This they had been doing pretty constantly up to the illness, and prior to this time they were in perfect health and excellent condition.

On the date named, 18th December, they were all in a more or less febrile condition—rise of temperature, accelerated pulse, loss of appetite, excessive dulness, almost persistently lying down, or standing with their heads on or under the manger ; if standing, a push on the quarter would cause them to reel, probably fall, and there they would lie, with an entire absence of energy and pluck. About the head, mouth, and lips of most of them there were some swelling and abrasions, but the special symptoms were extensive swelling of all four legs, the hind ones generally being the worst, with acute inflammation of the skin, best seen in white legs, and eruptions in different stages of development on its surface ; these discharged constantly, and in very large quantities, a most offensive exudate, which continually dropped off from the hair on the heels.

Such, shortly, was the outbreak. All the cases were treated with febrifuges, quinine, etc. internally, whilst mild astringents and antiseptics were applied locally. Subsequently tonics and liberal diet was prescribed, and various applications applied locally according to the stage the disease was in ; and in a few weeks the greasy heels ceased to exist, and the horses were convalescent again, from what, I have no doubt, was an acute attack of *variola equina*. Every animal in the stable was affected, including one that was introduced after the attack had commenced ; but other horses, never actually in contact, escaped.

Then followed what was, and still is to me, a mysterious and fatal condition affecting the respiratory tract, such as I have never before seen, and which I cannot myself explain ; and although I have laid the cases before most of the leading lights of the profession, I have failed to get any satisfactory or decisive opinion on it.

From this affection four out of the seven animals attacked with *variola equina* died within the space of three months.

I have already said the animals had recovered and were sent to work. On the journey to Birmingham one of the horses was suddenly attacked with dyspnoea of so serious a nature that she had to be taken out of the team and walked quietly home, and we were again sent for, but on our arrival the mare appeared perfectly well, was comfortably eating her food, and the attack (which we gathered was of but short duration) had passed off. A few days after I called to look at the mare, when Mr L. told me that he had another in just the same condition. He explained to me that the horse appeared perfectly well, but with the slightest exercise or excitement the difficult breathing came on, and in a few minutes it ceased, and the animal was again apparently as well as if nothing had happened.

I could not understand it, but fortunately was soon to see for myself. The fresh case, a young horse, had been placed in a loose-box, the window from which faced into the yard. I had looked at, examined, and watched him, but could detect nothing amiss. I passed on to the other stable, and, to try and bring on

an attack, I had the mare first affected taken out to exercise; to do this she was taken by the window in which the young horse was stabled. Seeing the mare go by, the young horse, as a horse that is fresh and above himself will do, commenced to play and kick up his heels in the box. The result of this was, that in less time than it takes to write it, he was attacked with what appeared to be spasm of the larynx. The screams in the struggle for breath could be heard a long distance away. He dropped on the floor of the box in agony, and in two minutes was bathed in sweat; I, with nothing better at hand, took an ordinary pocket operating knife out of my pocket to perform tracheotomy, but Mr L. said he would be better directly, and so he was; in a few minutes he was on his legs again, eating hay out of the rack, as if nothing had happened, except for the sweating. The same evening my assistant put a tube in this horse's trachea, and he apparently did well for a week or two, but was found dead in his box one morning; there had evidently been considerable struggling, and the tube had become displaced.

The other horses died in a similar way. The last one attacked Mr L. turned out in a field to take his luck, and he says the horse appeared to have quite recovered, and played and galloped about the field perfectly natural. After a time his owner went himself to fetch the horse in to do some work, but, walking him along the road, he was again attacked in a similar manner, and so was once more taken back to the field. Nothing was subsequently seen wrong with him, until about ten days after he was found dead. Together with Mr Malcolm, Birmingham, I made a *post-mortem* examination; except dark discoloration of the mucous lining membrane of the larynx, trachea, and adjacent parts, and early decomposition, nothing special was noted. The parts named and others were sent to Professor M'Fadyean, and he, except that the horse's larynx gave evidence of the animal having been a roarer, detected nothing abnormal, and considered that the discoloration and early decomposition were such as might have been expected in an animal that had died from asphyxia.

Such is an incomplete history of what to me is an extraordinary series of cases, for which I can give no intelligible reason. Briefly, seven horses, apparently healthy and under favourable conditions, are attacked with variola equina in a severe form. Subsequently, and following on this attack, four of them die from what I should term *laryngismus spasmodicus*.

What caused it?

TRANSMISSION OF PINK-EYE FROM APPARENTLY HEALTHY STALLIONS TO MARES.

By JAMES CLARK, F.R.C.V.S., Coupar-Angus.

IT having been my good fortune to see this season what I believe a very well-marked and interesting outbreak of the above disease transmitted from a stallion to mares, I beg to offer a short account with the hope that it may prove of interest to readers of this Journal who may not have encountered such in their practice.