[Introductory lecture] : Glasgow Veterinary College.

GLASGOW VETERINARY COLLEGE.—

Sheriff Clarke's Introductory Lecture.

THE Introductory Lecture to the Winter Session of Glasgow Veterinary College was delivered yesterday afternoon by F. W. CLARK, Esq., L.L.D., Sheriff-Principal of Lanarkshire. Principal M'CALL occupied the Chair; and in addition to the students, who were present in large numbers—the Lecture-room being crowded—the following gentlemen among others were present:—Professor Young, Glasgow University; Dr. Marwick, City Chambers; Rev. Dr. Johnston, Cambuslang; Rev. Mr. Storry, Carmunnock; R. Walker, Esq., Lethamhill; Mr. Johnson, Letterick; and Mr. Young, junr., Greenlees; Professors Knox, Cooke, and Macqueen, Glasgow Veterinary College. The following Veterinary Surgeons were also present:—Mr. M'Gill, London; Mr. Dunlop, Belfast; Mr. Kidney, Belfast; Mr. M'Intosh, Dumfries; Mr. Thomas Campbell, Kirkcudbright; Mr. Chivas, Corbridge; Mr. Thomson, Inverness; Mr. Spreull, Dundee; Mr. Crockatt, Dundee; Mr. Lindsay, Alloa; Mr. Robinson, senr., Greenock; Mr. Robinson, junr., Greenock; Mr. R. Rutherford, Edinburgh; Mr. M'Farlane, Greenock; Mr. Pottie, Paisley; Mr. M'Geoch, Paisley; Mr. Houston, Paisley; Mr. J. M'Call, Govan; Mr. Weir, Airdrie; Mr. Weir, Glasgow; Mr. Blackie, Bellshill; Mr. Bryce, Stirling; Mr. Pollock, Hamilton; Mr. Jarvie, Carluke; Mr. Brackenridge, Holytown; Mr. Gardner, Helensburgh; Mr. Neil, Dumbarton; Mr. Prentice, Glasgow; Mr. Mitchell, Cranstonhill; Mr. Pollock, Parkhead; Mr. Mitchell, Glasgow; Mr. J. B. Macqueen, Glasgow; Mr. Wm. Anderson, junr., Glasgow; Mr. Dickson, Glasgow; Mr. Currie, Glasgow; Mr. Wyper, Glasgow; Mr. Blue, Mearns; Mr. Allan, Clarkston; Mr. Panton, Blairgowrie; Mr. Constable, Inchture; Mr. George Hill, Glasgow; Mr. Clark, Dalserf; and Mr. Peddie, Cathcart.

Sheriff CLARK, who was introduced by the Chairman, said—When I was asked to deliver the Introductory Lecture

at the Winter Session of this admirable Institution, which is now rapidly attaining deserved celebrity, it was with no little hesitation that I accepted the honour. My almost entire ignorance of veterinary medicine—except in so far as reading may have given me some small acquaintance with its theory and history—seemed to forbid the hope that I could be of any real service. Yet as I am warmly interested in the progress of a profession fraught with so much practical utility and promising so much towards the advancement of science, I could not refuse to accede to the solicitations of your Principal, to make some general observations that might tend in some degree to stimulate your labours. Veterinary medicine must have come into existence as soon as man began to domesticate the inferior animals; and that this took place at a very remote era is amply proved by the remains of the horse, the ox, the goat, the dog, &c., being found in ancient *tumuli*, lake-dwellings, and caves, intermingled with the bones of primeval man. It is also established by the fact, that among all the members of the Aryan race the names of the domestic animals still bear the marks of a common origin at that distant pre-historic period when, before their separation into Greeks, Celts, Goths, Sclavs, Hindoos, Persians, the common ancestry dwelt together and spoke the same language in Northern India. From the Greek writers we can see that the veterinary art was studied in ancient Egypt. From thence it would seem to have passed into Greece, where the great care bestowed on the breeds of cattle, and particularly of horses and hunting dogs, and the great success with which that care was rewarded, incontestably prove that the veterinary profession had at least made great progress as an art. From the notices of Greek writers we see that many treatises existed on the diseases of domestic animals,—that by Hippocrates, a celebrated physician of Cos, was deemed the best. We must regret that most of them have been lost; yet anyone who reads Xenophon's work on the horse cannot fail to see that he lived in an age when the veterinary art had been carefully studied. During the flourishing period of the Roman Empire, veterinary medicine made great progress, as might be expected among a people eminently practical, whose vast military establishment required continual remounts for the cavalry service, and who were unweariedly employed in improving the breeds of domestic animals. That awful catastrophe in the history of

the human race known as the fall of the Roman Empire, and the night of darkness that followed, have deprived us of the greater part of ancient literature. Among other losses, we have to deplore that of many works on veterinary medicine, the names of whose authors alone remain. Yet enough remains to show how carefully the art had been studied, and what progress it had made towards the dignity of a science. Upon this subject I would refer to the treatises of Marcus Cato, of Terentius Varro, of Columella, of Palladius, of Vegetius, and the fragment of Gargilius Martialis—all of which, directly or indirectly, deal with the veterinary art. The celebrated work of the elder Pliny—Plinius Major—on natural history may also be consulted as throwing light on the veterinary medicine of his day; so also may the philosophic poem of Lucretius—*De Rerum Natura*. Everyone has seen the earlier work of Virgil, in which in immortal verse he treats of the breeding and rearing of cattle and horses among the other cares of the husbandman. Many have wondered how a poet should know so much of such a subject. The wonder abates when we find it recorded by Donatus that, after completing a course of medicine and mathematics, the youthful poet studied veterinary surgery for a considerable time, was employed in the stables of Augustus Cæsar, and was first brought under the notice of that emperor by his skill in the art. On the fall of the Roman Empire, veterinary medicine, like other departments of science, ceased to be cultivated, and for a long period fell into the position of a handicraft, in which smiths, shepherds, or herdsmen empirically practised such treatment as tradition taught or experience suggested. It was about this time that the blacksmith or farrier came to the front and began to assert himself as the great depositary of the veterinary art. In classic antiquity, horses were not usually shod with iron; and even when metal was used for that purpose, it was commonly fastened to the hoof, not with nails, but with thongs or latchets like a sandal. It was among the barbaric hordes which overran the Roman Empire, that the iron shoe, fastened with nails, came into vogue, much about the same time that the tree saddle, with stirrups, was invented. How such obvious improvements in the equestrian art should not have been earlier adopted, is one of those curious facts in the history of mankind that have never been fully explained. The fact is certain that the classic languages of antiquity contain no words for horse

shoes, saddles, or stirrups, in their modern sense. Now, the saddle throughout the middle ages—at least, when used for military purposes—was formed of steel or iron, and was consequently the work of the smith. To the smith also belonged the forging of the iron shoe and the driving of the nails. The last operation, as we all know, required no small skill, and the smith often caused injuries to the hoof, which he had to do his best to cure. About the same time, also, the use of the actual cautery became common, and from these combined causes it is easy to see how the farrier came to be regarded as an authority in veterinary medicine. Nor were the ancient farriers the rude blacksmiths into which they ultimately degenerated. They were the forgers of armour, both defensive and offensive, at a time when that art was much more highly cultivated than it has ever been since the invention of gunpowder. They were men often of great attainments in metallurgy and chemistry. As time wore on, a great change took place in the military art. The armies of Greece and Rome had been mainly composed of a highly-disciplined infantry. With the institution of chivalry, this (about the ninth century) was entirely changed. The strength of the mediæval armies came to consist almost entirely of heavy cavalry, in which man and horse were completely covered with defensive armour, so that the medium weight to be carried by the knightly charger was no less than 30 stones. A peculiar kind of horse called a "destrier," and now lost, was required for this purpose—combining great strength with still greater energy—not, indeed, for speed, but for rapid evolution, so that the knight might wield his heavy lance and battle-axe with advantage in close combat. These horses were procured at vast expense in Spain and Italy; and, when procured, were subjected to an elaborate training of years, until they obeyed the slightest movement of wrist or heel, and played nearly as important a part in the mêlée as did their riders. This severe training, and the exertions they had to make on service, subjected them to continual strains and diseases; but as their value was great, every means of prevention or cure was eagerly sought after. The practice of covering the horse in every part with defensive armour also drew after it important consequences. His ears were cropped out close to the head to permit the covering of mail to fit closely; and for the same reason his tail was not docked but dug out close to the croup. Moreover, this heavy panoply

of iron exposed the horse to alternate sweats and chills that proved highly destructive. Such things necessitated some knowledge of surgery and medicine. And here came in the important part played by the riding-masters or maréschals of the day. It was the profession of these gentlemen to procure and train such horses, and afterwards to direct their treatment. Hence they carefully studied the nature and constitution of the horse, and generally possessed the highest degree of veterinary skill known at the time. In Spain, Italy, France, and Germany riding schools, called academies, were established. Some of them obtained a world-wide celebrity. Numerous works on the manége, that is, military riding, emanated from them, and to each was always attached a treatise on the veterinary art. In so high estimation was this combination of riding-master and veterinary surgeon held, that it was exercised by the highest of the military nobles. It is a very significant fact that the French word "maréschal," which denotes the highest military officer in France, originally meant a veterinary surgeon, and is still used as the name for a farrier. With the introduction of gunpowder chivalry was extinguished, heavy cavalry fell into disuse, and the armies of Europe came to consist mainly of infantry. This revolution brought about the decline of the old maréschals with all their science and traditions, and that art which kings and nobles had loved to teach fell into the hands of obscure practitioners with little more science than that possessed by a huntsman or trainer for the turf. The Marquis of Newcastle, whose celebrated work appeared about 1680, was the last of the great military riding-masters; and though after his time his humbler brethren made a gallant struggle to maintain their ancient renown, they steadily declined, and the science of the riding-school gave way to that of the turf. The result of this was that the veterinary art was fast passing into the hands of blacksmiths, now no longer armourers, and was in danger of tumbling from a profession to a trade. Coincidentally, however, with the decline of the professors of military equitation, arose the first pioneers of the science of veterinary surgery, properly so called. In Italy, as early as 1618, appeared the work of Carlo Ruini, on the diseases of the horse, profusely illustrated with superb engravings. This was followed in France by the "Grand Maréschal Francois," a work of great erudition. Soon after appeared "Le parfait Maréschal," by

Sollysel, and this was translated into English or rather Scotch by Sir William Hope. From that time numerous treatises appear all over Europe, all having for their object to rescue the veterinary art from obscurity, and bring it into the form of a science. Several of these writers, such as Gibson, Bracken, La Fosse, and Osmer, were medical men of eminence. They did much to free the veterinary art from blind empiricism. Yet their practice and prescriptions, though vast improvements on those of their day, are tinged with cruelties and puerilities at which an ordinary strapper would now stand amazed. At this we need not be astonished. Those were the days when medicine and surgery, even as applied to the human patient, were of such a kind that we do not marvel that so few were cured, but that any one escaped alive from the hands of the learned faculty. At length, as ordinary medicine began to improve, veterinary science followed in its wake. In Italy some veterinary colleges, of which little is known, were in existence in the beginning of last century. Bnt it was not till 1761 that the first veterinary college was founded in France, at Lyons, under the well-known Bourgelât. This was followed by the now celebrated school of Alfort, founded in 1766. In 1792 the Veterinary College of London was founded, Charles Vial de Sainbel and Delabère Blaine being the first professors; and the work of the latter, which has passed through numerous editions, is still highly prized. Since then Veterinary Colleges have been formed in every European capital and in many of the principal cities. In Scotland, Professor Dick founded a Veterinary School at Edinburgh, and in Glasgow our worthy Principal has succeeded in establishing this College, which has already become an honour to the kingdom, and for which a great future is, I doubt not, reserved. (Loud applause.) Veterinary medicine has now reached a position to which even in the most brilliant days of Greece and Rome it certainly never attained. It is no longer a mere art; it has become a science, and a science of vast range and vast importance. It has passed out of the stage of empiricism. Its professors are no longer content to do or prescribe what they have seen done or prescribed before. They wish to know the reasons of the practice they adopt; they wish to interrogate nature by experiment and observation; they seek to collect and arrange facts over the widest areas and by every variety of means, and they labour to evolve from the materials so

collected the concealed laws or tenors of action by which nature may be supposed to work. They do not reject theory, but they insist on bringing the most plausible theories to the test of experiment. Unlike their predecessors, they do not compel fact to square with a favourite theory; they regard theory as valuable only when it harmonizes with and serves to explain fact. There is in the present day a circumstance that at once extends the bounds of veterinary science, and gives it an importance never felt before. You are all aware of the modern theory of evolution, based on what is termed natural selection or survival of the fittest in the continued struggle for existence. Its most ardent and advanced votaries claim for this theory the real explanation—not of the origin of creation, as some have supposed --but of the origin of species; in other words, the real cause of the various types of life heretofore and now existing on the earth. I cannot say that I am a convert to this notion. I do not think that the ascertained facts are a sufficent basis to support the vast theory which is attempted to be reared on them. But whether I am right or not in this view, one thing, I think, has been clearly established, and that is, that among all the vertebrates—man included—the materials, organs, and structure of the body are so connected in accordance with some underlying plan or law, that all are in strict analogy, and are only adaptations of one common set to the wants and requirements of each separate species. This adaptation appears to be brought about by the processes of development, as though the great Creator had utilized certain typical organs for every purpose comprised within the beneficent scheme of animal life. Thus, to take two of the most divergent instances—the horse and man—the stifle joint of the horse is the analogue of the human knee, the hock of the heel, the single toe on which the horse walks is the analogue of the central digit in the human hand or foot, the other digits being represented in the existing horse by the splint-bones, which in the earlier equine species carried hoofs, and in still earlier forms appear to have reached the typical number of five. These, and thousands of similar analogues, do not to my mind prove community of origin, but they prove unity of plan, and strongly point to this, that if ever the sciences of life and curative medicine are to be prosecuted in an exhaustive and effectual manner, it must be by comparative anatomy, comparative physiology, comparative science, in short, universally. Veterinary science

has thus assumed vast importance, and has come into line with human medicine and surgery. Neither of those two sciences can hereafter stand apart. The veterinarian has much to learn from the medical man, and the medical man from the veterinarian. Indeed, the time cannot be far distant when for all the higher purposes the two provinces of medical science must coalesce. If I am at all right in the views I have been indicating, it follows that not only is the profession to which you have devoted yourselves one of great importance, but important duties devolve upon you who are now its students, but will hereafter become each in his sphere its pioneers and advancers. Permit me, therefore, to give a few words of counsel which experience in a different line has impressed on my own mind. Every man should seek so to learn his profession that he may live by it. He who fails to do this may be said to fail in a primary and important duty. But if any man resolves to know only as much of his profession as shall enable him to maintain himself, his object in life is a very humble one, and the probability is that he will not even attain that object, humble though it may be. To succeed in any walk of life whatever requires it to be prosecuted with enthusiasm. But this is specially the case where the calling chosen is a profession—that is to say, not merely an art but a science. The veterinary profession has now definitely entered the circle of the sciences, and must therefore advance with increasing acceleration. He, therefore, who should cultivate it merely as an art, however well skilled he might be in the art when he left the College, would find in a few years that he was left high and dry by those who, perhaps, though with inferior abilities, had chosen to follow the scientific stream. Nor is there any excuse for the veterinary student who does not prosecute his science with enthusiasm. The mere lawyer, after he has laboriously cultivated his profession for years, may find much of his laboriously acquired learning swept away by a new Act of Parliament. The veterinarian deals with the eternal verities of nature. Whatever truths he can attain to remain truths for ever, and become new points of departure for still more important verities. Small as the contribution may be which he may make to his science, if only it be truth, it is so not relatively but absolutely. Again, let me advise you to cultivate a habit of reading in your leisure hours, so that it may become not a duty only, but a source of the highest

enjoyment. In old times the veterinarian could advance only by personal observation, or the suggestions of such friends as were in his immediate neighbourhood. Now-a-days, the press brings the experience and discoveries of the whole scientific world within the reach of those who avail themselves of its aid. A man may, therefore, learn more in a month than he could of old have learned in a long life. Do not, however, allow the habit of reading to supersede that of practice and observation. He who knows his profession by books only, runs the risk of being a mere *dilettante* theorist. A theoretical veterinarian, like a theoretical lawyer, is a most dangerous member of the community. Science is as helpless without art, as art is without science. Though I should read up so as to pass a creditable examination, yet should I certainly fail if I attempted to perform the simplest operation which an ordinary farrier would execute with instinctive ease. Some of you may be defective in those preparatory acquirements, without which you will always find yourselves handicapped in your professional career. Among them may be mentioned a knowledge of Latin and French. There is no great difficulty in acquiring a knowledge of both sufficient for your purpose, provided only you devote an hour or two daily to their acquisition for a sufficient length of time. The difficulty is to make a beginning. But observe this, that the longer you delay the more difficult will it become, until at last you will neither have the inclination nor the aptitude for such studies. Only get over the initial stages while yet young, and you will find that in your leisure hours afterwards you may insensibly push such studies to any extent you may desire. The same is true of mathematics and kindred sciences. In the initial stages only is the difficulty felt. Lay the foundation while yet young. The superstructure may afterwards be easily raised. Some of you are come from the country and are probably for the first time exposed to the temptations and the distractions of a large and populous city. That the dangers of these are great—very great—cannot be denied. It is painful to think how many young men of promise, from whose exertions science might have gained much, are thus annually lost, or form habits that eventually lead to ruin. As a guard against such disastrous results, I would counsel you to hold fast by those religious sentiments which you have received in your early homes. Such impressions are always the most valuable treasures we inherit. I would not

inculcate asceticism, yet it is well to remember the apostolic precept, "Avoid the very appearance of evil." It is also well for youth rather to flee temptation than to trust to resisting it when exposed to its power. One important advice given by the ancients, and fully approved in modern times, is to make sure of a certain amount of physical exercise every day. Not only does this preserve *mens sana in corpore sano*, but it indirectly promotes regular living by sending a man early to bed. I do not mean that you should cultivate athletics, which often do more harm than good, but that by walking and the like you should take as much exercise in the open air as shall keep you in good condition for mental labour. It is well always to bear in mind that, as young men of the present day, you are in reality the heirs of all the ages that have preceded you. All that science has with untold efforts and struggles secured now lies before you to acquire, by simply making it your own. By the accumulated efforts of those who have gone before you, you stand on a vantage ground such as the greatest scientists of the past never possessed. The wealth of a Roman emperor could not have procured for him that scientific teaching that is now spread before you. For this rich inheritance that is bequeathed you from them into whose labours you enter, some return is due by you to the future. And that return can only be made by strenuous exertions on your part to add still more to the stores of learning that will fall to those who come after you. Every school of learning depends for its celebrity not only on the abilities of its teaching staff, but on the application, the loyalty, and the enthusiasm of its students. The youth of this country, particularly of Scotland, have always been characterised by a desire for learning even under the greatest difficulties. Each one of you would, I doubt not, desire that this institution should flourish. Now one of the most effectual means to that end consists in the diligence with which you prosecute your studies. And remember, that in thus promoting the welfare of this College, you are really promoting your own.

Professor YOUNG thought the Principal and students were greatly to be congratulated on the choice of the person by whom the session was inaugurated, for seldom has an institution of the kind been opened by an address so valuable in itself, so useful, so well worthy of being borne in mind by

those to whom it was addressed, and also by the entire profession of which they desired to become members. The admirably succinct views afforded of the history of the profession made the address a historical document of some value, seeing that it showed what seemed to be too much forgotten at the present day, namely, that the veterinary art had fallen from the high position it had once occupied by a mere accident, and had not been restored to its due position because of the unworthy jealousy and suspicion with which it had been regarded by members of the profession to which he himself belonged. It was to such institutions as the Glasgow Veterinary College they must look in the future for the restoration of both human medicine and veterinary medicine to their proper place—the restoration of the due proportions which were to exist between them; and he thought Sheriff Clark had fore-shadowed very well what was the ardent desire of all who had the slightest interest in the progress of medicine in its most comprehensive sense when he suggested that human medicine and veterinary medicine should ere long form one indissoluble whole. (Applause.) He himself had long looked forward to a combination of the two kinds of medicine as a necessity that must come if pathology was to be put on its proper footing. He asked them simply to bear in mind this important point, the necessity for the careful study of comparative pathology; for those of them who happened to have read the discussions upon some of the legislation recently proposed before Parliament would doubtless have come to be aware of the fact that but for the labours of the veterinary surgeon they should still be in the dark as regards the character of some of the diseases which played such terrible havoc in the human race. (Applause.) As regards the sound advice tendered by the Sheriff, he would say nothing, but he should like to make an addition to what the Sheriff had said in speaking of what might perhaps come before the students as the ruling ideas of their studies regarding the development of the horse and other domestic animals. They would doubtless hear a good deal about evolution, and Sheriff Clark would pardon him if he reminded him that they were long past the days of natural selection; that evolution, as it was called—a title claimed by one particular class of observers, he thought, somewhat unfairly, and to the prejudice of others who were equally entitled to claim it—had now added codicil after codicil to the right theory of natural selection, until they

had a vast multiplicity of possible causes, each new explanation being needed to meet the case of some new difficulty. It was therefore superfluous in him to add anything regarding the danger of trusting to any one theory; but, if necessary to insist upon it, he should put it upon this ground—that there were so many additions needed, sometimes scarcely reconcilable with each other, it was best for them to confine their labours in the meantime to actual observation, trusting to the future calmer thought, and wider experience, before any one particular doctrine of evolution should be adopted. (Applause.) He moved a cordial vote of thanks to the Sheriff for his discourse.

Dr. JOHNSTONE seconded the motion, which was warmly responded to.