the fibres of the levator and tensor palati muscles; and any harmful traction influence which these might exert is therefore obviated.

In conclusion, let me summarise the chief advantages of the operation I have just detailed:—

1. It can be performed with greater ease and rapidity than any of the cleft palate operations with which I am acquainted.

2. It is not accompanied by troublesome hæmorrhage, as no large arterial branch is divided, and whatever hæmorrhage does occur may be effectually controlled by digital pressure.

3. The muco-periosteal flaps have their blood-supply assured. They are raised with the least possible damage; and this is a material advantage when dealing with the delicate and friable tissues of young children.

4. The free range of mobility of the flaps facilitates in a very marked way the introduction of the sutures; more especially is this the case at the anterior extremity of the cleft, which has hitherto been a difficult part to close.

5. Lastly, the operation is well adapted to young children. One of the main difficulties with them is the carrying out of the post-operative details. A skilled nurse can do a great deal to promote a favourable result, and a few days before operation spent in making friends with the little patient will have a telling effect on the subsequent course of events.

ART. XXI.—*The Relation of Veterinary Science to Human Medicine.*^a By SIR CHRISTOPHER J. NIXON, M.D., LL.D.; President of the Royal College of Physicians of Ireland; Senior Physician to the Mater Misericordiæ Hospital; and First President of the Royal Veterinary College of Ireland.

IN considering the question of delivering a formal address upon the opening of the session, I had decided upon not exercising the privilege which my position as President of the Medical Section confers upon me. The time at my disposal was too short, and the pressure of other work did

^aPresidential Address delivered before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, November 17, 1900.

not permit of my dealing with any subject in a way worthy of its being presented before this distinguished Society. On reflection, however, I thought I might utilise the occasion to refer to a matter which, though it has more or less a personal bearing, still, in my judgment, is worth more than a passing note in connection with the future of Medicine in Ireland. As most of those present know, I occupy the position of President of the Royal Veterinary College of Ireland, and it has, I understand, been more than once made the subject of inquiry as to what connection a physician—what connection the President of the College in which we meet—can have with a school of veterinary medicine. I purpose in the few remarks which I shall make to answer this question.

The Presidency of the Veterinary College fell to my lot rather by accident. The late Rev. Dr. Haughton, one of the most distinguished amongst the distinguished men who were Fellows of the Royal College of Physicians, was one of those who, with Professor Cunningham, Professor FitzGerald, the late Right Hon. Christopher Redington, Professor Carroll, and myself, took the keenest interest in the establishment of this college in Dublin, and when the charter of incorporation was granted, it was the desire of most of us that Haughton, *clarum et venerabile nomen*, should be its first president. He, however, wished otherwise, and suggested that I should fill the post, and so the position devolved upon me. I do not desire to enter here upon a discussion of the advantages, enormous and far-reaching as they are, which a school of veterinary medicine is certain to bring to the agricultural industry of the country, nor to dwell upon its usefulness in reference to the veterinary profession. I may merely observe what I am sure is the feeling of most of us, that it was singularly anomalous that until the present year Irish veterinary students were obliged to seek training in England and Scotland.

These are all matters more or less foreign to the aim and object of the Section of Medicine, but what may legitimately claim its attention is the consideration of the question as to what influence a school of veterinary

medicine is likely to exercise upon human medicine, and in what way that influence may be utilised for the benefit of the Dublin Medical School.

Whilst a very close connection existed from the earliest times between animal and human medicine—a connection as old as the time of Hippocrates, who made several investigations in subjects of comparative pathology, and Galen, who drew largely for his facts and comments from works published on veterinary medicine—the starting point of veterinary medicine as a science may be said to date from the establishment by Bourgelat, at Alfort, in 1766, of a school which has become the nursery of veterinary science, and one from which most similar institutions obtained their teachers.

Shortly afterwards the celebrated Vicq d'Azir, one of the Professors of the Alfort School, realising the advantages to be gained from the association of the two branches of medicine, wrote a pamphlet styled "*Nouveau Plan de la Constitution de la Médecine, en France*," published in 1790. His idea was that veterinary teaching should be made preliminary to teaching in human medicine, and should form the principle of instruction in human medicine, and to this course he proposed to give the name of *Le Premier Degré*. He urged that a veterinary school should be annexed to every medical college established in France. This suggestion received at the time such a degree of attention that Tallyrand urged its adoption in the "*Report sur l'Instruction Publique*," read before the National Assembly in 1790, and a proposal was made that veterinary teaching should form part of the National Institution at Paris. The idea was that as the suffering animal always appears as it is, without the disturbing influence of mind, the symptoms being the rigorous expression of diseased conditions, it would be of great advantage to medical students to be initiated in the study of disease generally by observing diseases of animals. It was a question of the advantages of testing rigidly the powers of observation, of noting strictly objective phenomena, conditions as regards animals offering the same difficulties in diagnosis as does the ailing infant or the comatose adult.

At the time that these proposals were being considered in France, St. Bell, a pupil of the Alfort School, may be said to have founded the Veterinary College of London. Upon the death of St. Bell in 1793 great difficulty was found in supplying his place, but on the recommendation of John Hunter and Cline two medical men were appointed—Coleman, who taught anatomy and physiology, and Morecraft, who, after some training in the French school, taught the practical details of the veterinary art; and it is a curious historical fact that Coleman, who was a fellow student of Sir Astley Cooper, performed many experiments upon animals in the College under the direction of Cline. Coleman by his great energy and by his scientific researches raised the College to a high standard of usefulness, and its students became qualified to hold commissions in the army after passing an examination conducted by eminent members of the medical profession.

Passing now from what may be regarded as an aspect to some extent academic in its nature, let us for a moment consider what have been the results attained from observing processes of diseases occurring in animals. The mere mention of the diseases that are communicated from animals to man would alone establish a close connection between animal and human medicine—anthrax and its varieties, malignant pustule and malignant œdema; tuberculosis, glanders and farcy, rabies, cowpox, foot and mouth disease, rinderpest, trembles or milk fever, different varieties of worms, bubonic plague, various forms of tineæ, various species of worms, mange, scabies, actinomycosis, and diphtheria.

The wideness of range of these different affections, as well as the importance of their recognition in man and their treatment, led the General Medical Council to formulate a recommendation to the various licensing bodies that candidates for a diploma in public health should produce evidence of having attended an institution where instruction was given on diseases of animals transmissible to man. But the diseases which I have mentioned represent but a fraction of the knowledge gained by the study of conditions of life and diseases in animals. Am I overstating the case when

I say that most of what we know of the problems in physiology and in pathology is derived from observations carefully conducted upon animals? The functions of the brain and spinal cord, the relations of the nervous system to the action of the heart and conditions of blood-pressure, the various problems in connection with digestion, and in reference to the various secretions, all have been determined by the results of such experiments, whilst to the same source we owe most of our knowledge of such diseases as tuberculosis, rabies, cholera, tetanus, septicæmia, Jacksonian epilepsy, myxœdema, &c. No investigation could be carried out in a more genuine spirit of scientific accuracy than the experiments of Horsley in producing myxœdema in the monkey, resulting in the effective method of treatment of the affection suggested by Dr. Murray. But it is especially in reference to bacteriology that I would point to the link between animal and human medicine. The discoveries of a chemist, a physicist, and a physician—Pasteur, Tyndall, and Koch—may well be said to have created an epoch in medicine, and their labours have placed bacteriology upon such a solid basis that for the first time laws of Public Health and Preventive Medicine can be formulated with absolute scientific accuracy. Since Davaine, thirty-five years ago, showed that anthrax was due to the presence of certain rod-like bacilli in the blood, the advance made in this branch of human science may be regarded as monumental. And we must not forget that the results were obtained from carefully observed conditions of disease in animals. The discoveries of Koch culminated in the discovery of the bacillus of tubercle, and the introduction of tuberculin as an infallible test for the existence of tuberculosis in cattle. Diphtheria is no longer the dread scourge it was since the discovery of its special micro-organism by Klebs and Löffler, whilst Roux in France and Behring in Germany have utilised the discovery by introducing the antitoxin which has been so valuable in the treatment of the disease.

The micro-organisms of pneumonia, of tetanus, erysipelas, septicæmia, and bubonic plague have been demonstrated, and methods of treatment, based upon the action of their

several antitoxins, are now being employed. We know what causes typhoid fever, and though we seem to have been powerless in arresting its progress in South Africa, can any one doubt but that in time, taking precautions to have a supply of pure drinking water, and methods employed for its routine bacteriological analysis, typhoid will cause as little dread, and be as little likely to cause panic or loss of life as the plague under the conditions of modern civilised life? The great plague of London, so graphically described by De Foe, killed 68,526 persons. Since the discovery of its special bacillus by Kitasato, and the knowledge we have gained of its mode of transmission and propagation, we may feel certain that the hygienic methods at our disposal will either avert its introduction or strictly limit its spread. In a way as interesting almost as a fairy tale is the account given by Koch in his *Reise-Berichte* of his travels in South Africa for the purpose of studying various diseases of men and animals, a *resumé* of which is published in the "Journal of State Medicine" by Professor McWeeney. Koch's investigations in South Africa embraced the study of rinderpest, endemic plague, tropical malaria, Texas fever, and the tsetse fly disease. Not being able to discover the bacillus of rinderpest he adopted the method followed by Pasteur in the case of rabies of trying to find a remedy, with the result that Turner and Kolle, to whom he handed over his work, found that the anti-microbic power of the serum used was most effectual in stamping out the disease. The researches made on tropical malaria correspond closely with those of Annett, Manson, and Ross, whilst Texas fever was shown to be produced by the parasite passing from the mother tick into her ova, with the result that the young ticks springing from these ova convey the infection.

In veterinary schools upon the Continent distinguished workers in the field of bacteriological science have kept pace with what was being done by those who were making investigations into diseases of both animal and man. Bouley, a veterinarian who eventually became President of the French Academy; Colin and Flourent, distinguished physiologists; Arloing, Nochard, who worked with Pasteur,

and Leclanché, bacteriologists—are all men who have attained the highest scientific position in France. Whilst in Germany, Schutz has been a collaborateur with Löffler, and Munk, the distinguished physiologist, is a professor of the Berlin Veterinary School. Johné, the veterinary professor of Dresden, may be said to have supplied us with most of our knowledge of actinomycosis, whilst another veterinarian, Thomassen of Utrecht, suggested the use of a specific in the treatment of the disease—viz., iodide of potassium. Perroncito, in Italy; Hess and Guillebeau, in Switzerland; Semmer, in St. Petersburg; Vennerholm, in Sweden; Degine, in Brussels—are veterinary professors who have all distinguished themselves by their researches in disease of animals communicable to man. Bang, in Copenhagen, has the great distinction of having almost completely eradicated tuberculosis from the entire of Denmark.

The progress made in the subject of bacteriological science, and the discoveries that followed the observation of diseased processes in animals, at last stimulated the profession in England into taking some action, with the result that the British Institute of Preventive Medicine was established in London upon the same lines as the Pasteur Institute in Paris, and that built by the German Government for Professor Koch. A sum of £56,000 was at once raised by public subscription, and a place was thus provided where researches could be made in connection with infectious diseases occurring in man and animals, and the methods of their prevention, whilst facilities were afforded for providing the material for inoculation against such diseases as tuberculosis, rabies, anthrax, tetanus, cholera, quarter evil, &c., so that those interested in this special line of study would no longer have to go to Berlin, Munich, Breslau, or to the Pasteur Institute in Paris.

It is in reference to this institution that an event of far-reaching importance helped to put it in the foremost rank as an institute of practical usefulness and research. An Irish nobleman, Lord Iveagh, suddenly announced that he proposed devoting £250,000 in furtherance of the objects for which the Institute of Preventive Medicine was founded.

It is sufficient to say in reference to this princely gift that the noble donor will have, I believe, a more than adequate reward in the relief which he brings to suffering humanity. As an Irishman, I cannot avoid feeling a more than passing regret that we had not some similar institution in Dublin to that of the British Institute of Preventive Medicine which would have been in a position to claim a share of this generous donation. I need scarcely remind my auditors that the British Institute of Preventive Medicine has now become the Jenner Institute of Preventive Medicine, the national home for bacteriological work and research. The prospectus of the Institute defines its object:—'To establish an institution for the study and investigation of the best means for preventing and curing infective diseases of men and animals, and to provide a place where research can be carried on for that purpose. To provide instruction and education in Preventive Medicine for medical officers of health, medical practitioners, veterinary surgeons, and advanced students. To prepare and supply to those requiring them such curative materials as have been already found, or shall in future be found, of value in the protection of infectious diseases. The work of the institution is divided into three definitions:—

1. *Bacteriological Department*.—The work includes the following branches:—

- (1) Bacteriology in relation to medicine and pathology.
- (2) Bacteriology in relation to hygiene.
- (3) Bacteriological chemistry.
- (4) Photo-micrography.
- (5) Original research work.

2. *Hygienic Department*.—Where a complete course is given to include all the instruction necessary for the diploma in Public Health.

3. *Hansen Laboratory*.—This is devoted to instruction and investigation in technical bacteriology for the benefit of agriculturists, chemists, brewers, &c.

Where, may I ask, could we find a more appropriate place upon which to graft an institute similar to that of the Jenner Institute of London, than upon the Royal Veterinary College of Ireland? Few will be disposed to deny the

assertion that it is to bacteriology we must look in the future for the progress, not alone of Preventive but also of Curative Medicine, especially as regards the rational treatment of infective diseases.

To me, speaking from an experience of a quarter of a century as a hospital physician, nothing is more unsatisfactory than our method of modern therapeutics—system it can hardly be called. One might be tempted to say that a belief in the efficacy of the drugs prescribed in the ordinary routine of practice was in direct ratio to the prescriber's mental weakness, and that a little leaven of healthy scepticism would help both the physician and his patient. Might we not apply to the modern therapist, Cato's description of Portius :—

“Thy steady temper, Portius,
Can look on guilt, rebellion, fraud, and Cæsar
In the calm lights of mild philosophy.”

Take the list supplied by a fashionable chemist, of the animal substances mainly available for the purpose of making an income for the manufacturer. Tabloids of cerebrin, spinal cord, pineal gland, pituitary gland, thyroid gland, uterine substance, ovarian substance, salivary gland, spleen substance, suprarenal substance, didymin, prostate gland substance, &c., &c.

It is said that the use of the organs and parts of the body dates back to the earliest ages of medical practice, but we now seem to be pushing the doctrine of *similia similibus curantur* with a vengeance.

By an extension of this principle you might hope to tame a shrew by injecting her with the serum of a carefully selected Mark Tapley, or cure a dipsomaniac by using that of an individual who demands that Parliament should prevent the manufacture of all forms of alcoholic drink. What we sadly want in Dublin is some strong stimulus for the development of scientific teaching and research work. Clinical medicine continues to hold the high position which it has always held, and the traditions inseparably bound up with the names of Graves, Stokes, Corrigan, and Robert Smith are fully maintained by the clinical teachers of the present day. Owing to many

circumstances, the consideration of which it is unnecessary to enter upon here, we cannot claim that in scientific medicine we have reached the level of the German or French schools, and we have had to regard ourselves in physiology, pathology and chemistry as largely their debtors, not alone in research work, but in the ordinary material for teaching. This is to some extent a humiliating admission, but it is one that is perfectly intelligible when one considers the apathy and indifference of the State to scientific progress here and in the sister country.

It seems to me that we are entering upon a new era, and that the establishment of a Veterinary College in Dublin, supported by State funds, will supply the stimulus which is so desirable and so opportune. It will shortly, I believe, commence, under the direction of the Department of Agriculture and Technical Education in Ireland, research work in connection with rabies and the development of bovine tuberculosis.

If, as I hope and believe, we shall have established in connection with the Veterinary College a Jenner Institute for Dublin, may we not look forward to a great and flourishing centre of human and veterinary science which will redound to the credit of our country. In any movement which may be inaugurated to bring about this most desirable result, I sincerely trust the Royal Academy of Medicine will take an active, sympathetic, and a patriotic part.

TUBERCULOSIS OF THE SUPRA-RENAL CAPSULES WITHOUT ADDISONIAN SYMPTOMS.

M. MICHAUX (*Soc. Anat.*).—An autopsy in this case revealed nodular infiltration, with caseation of both kidneys and of the ureters. The ureter of the right side was changed into a rigid tube dilated and ulcerated; the bladder and the prostate were infiltrated with bacillary nodules; the genitalia were healthy. The supra-renal capsules of both sides were infiltrated with tubercle commencing to undergo caseous degeneration; withal the patient had not a symptom of Addison's disease—no muscular weakness, no gastric or intestinal troubles, and neither the mucous membranes nor skin gave any evidence of pigmentation.