

lesions appear as papillary growths, discrete or grouped to form a cauliflower-like mass. Depending somewhat upon pressure effects they are flat and sessile, or elongated and slender. Their usual location—about the corona glandis in the male, and the labia, introitus vaginae, and anal region in the female—favors the retention of moisture and the maceration of the lesions; the surface, therefore, is usually bright red, and covered with a secretion which is often very offensive; the practical absence of a cornified layer predisposes to slight hemorrhage, so that this secretion is frequently blood-tinged. These warts may appear in situations which are not moist, in which case there is no secretion, and the horny layer covering them becomes much thickened. *Verruca acuminata* are sometimes seen during the later months of pregnancy in women innocent of venereal history; they usually disappear after confinement.

ETIOLOGY.—The active causes of acquired verrucae are not definitely known. It is certain that warts are the result of the local action of irritants, but the essential elements in these irritating agents are not known; nor are the predisposing factors, which render one skin more susceptible than another, fully understood. A microbial origin is surmised for *verruca vulgaris* and *verruca acuminata*; the former is undoubtedly mildly contagious, certainly for adjacent skin, and probably for the skin of another; while the latter is well known to be auto-inoculable. *Verruca plana* is said by Jadassohn to produce its kind and therefore has a specific cause; this is confirmed by an eminent dermatologist who, in a personal communication to the writer, reports having observed an epidemic of *verruca plana* sweep through a family. The exciting cause of *verruca senilis* is not known, though the progressive degeneration in the skin undoubtedly serves as a predisposing factor. Of the lesions seen upon the hands of x-ray operators the cause is obvious.

PATHOLOGY.—Anatomically, verrucae consist essentially of an increased connective-tissue growth as a basis, to which is added an hypertrophy of the papillae and the rete mucosae. These changes are accompanied with an increase in the vascular supply. Often the hypertrophy of the papillae is more apparent than real, the result of the actual increase in the size of the rete pegs. In most verrucae the horny layer is hypertrophied, though the keratin transformation is not always complete. In *verruca acuminata* the horny layer is usually very thin, while the papillae and rete are greatly increased. In the senile wart columns of epithelioid cells are found within the papillary layer; and throughout all layers (excepting the corneous) a peculiar infiltration of fat is present.

DIAGNOSIS.—While the various forms of verruca are generally recognized without difficulty, it is well to keep in mind certain differentiations. *Lichen planus* has been confused with *verruca plana*; the former is less often seen upon the face, has a more empurpled color, is scaling and infiltrated, and itches, at times intensely. *Moluscum contagiosum* compared with *verruca vulgaris* is recognized by its minute punctum and its depressed centre. The lesions of *xanthoma* are distinctly yellow and would scarcely be mistaken for verruca. A distinction is also to be made between *verruca acuminata* of the sessile type and *syphilitic condyloma*; the latter is the papule of syphilis in moist locations, and as such is rarely papillomatous. *Verruca necrogenica* and *tuberculosis verrucosa cutis* may be recognized by their clinical course and by the histological examination of excised portions of the lesions.

TREATMENT.—The internal treatment of verruca is of doubtful efficacy. Crocker thinks favorably of the use of magnesium sulphate in small doses, and of dilute nitrohydrochloric acid. Arsenic, so frequently used in skin diseases, is rightly credited with good results in certain varieties, especially *verruca plana*.

The local treatment contemplates the removal of the lesions by curettage, electrolysis, cauterization, or by the application of substances designed to soften or to stimulate the skin. In many instances the use of the curette is most satisfactory; the scraping does not cause

severe pain and the bleeding is usually slight; it is often advantageous to cauterize the oozing base with the silver nitrate crayon. In verrucae which are very vascular the curette must be used with caution.

The method of removal by electrolysis is especially adapted to pedunculated forms: the base is transfixed with a needle connected with the positive pole of a battery, and a current of one to two milliampères is passed for about one minute; this is repeated several times, the needle being inserted at different angles through the base. The obliteration of the vascular supply thus induced causes the wart to shrivel and eventually to fall.

Of caustics glacial acetic acid and the silver nitrate crayon are the best; the use of chromic acid, acid nitrate of mercury, or potassium hydroxide is not without danger owing to their powerful caustic action. For softening the horny epithelium preliminary to curetting salicylic acid may be used; it may be applied in a solution with alcohol and ether, or in a collodion mixture. The strength should be about ten per cent., and the application should be confined to the lesion proper.

Verruca plana may be favorably influenced by applications which produce desquamation. For this the following may be used with advantage, in full strength or slightly reduced with water: R Calcis vivæ, 15.00; sulphur. sublimat., 30.00; aquæ, 300.00. M. Boil down to 180 c.c. and filter. Sig.: Vleming's solution.

Verruca senilis yields readily to radiotherapy; comparatively few exposures are required, and the results are most excellent.

PROGNOSIS.—Verrucae are usually very amenable to treatment; in fact, many disappear spontaneously, which accounts for the multiplicity of vaunted remedies. Senile warts may develop into epitheliomata; these may be quickly removed by radiotherapy.

Ernest L. McEwer.

VERSION. See *Obstetric Operations*.

VERTIGO.—**DEFINITION.**—A condition characterized by loss of the sense of bodily equilibrium. It is accompanied by subjective dizziness, by partial or complete loss of power to stand erect and to walk in a straight line, and in severe cases by nausea and vomiting.

The sense of equilibrium should be ranked among the special senses. It is but indirectly dependent upon sight, hearing, and touch, and it has, we now believe, a special nerve organ, which is used for this purpose and no other. Any interference with the function of this organ causes vertigo, just as any interference with the eye causes blindness, or with the ear, deafness; in any case the degree of impaired function varying with the intensity of its cause.

The sense organ of equilibrium consists of: (1) a cortical centre or area, apparently located in the cerebellum, and communicating by connecting fibres with various nuclei in the medulla and pons; (2) a nerve trunk, which forms the inner root of the eighth cranial nerve (auditory), passes with it into the internal auditory meatus, and is distributed, under the name of vestibular branch, to the vestibule; (3) a peripheral end organ, consisting of the semicircular canals, the utricle and saccule. These structures contain the peripheral terminations of the nerve, which, generally speaking, consist of hair cells. Briefly, these hair cells are supposed to be acted upon by currents in the endolymph, the currents being caused by changes in position of the head. The three semicircular canals correspond to the three dimensions of space. For further particulars see the article on *Audition*, in Vol. I. of this HANDBOOK.

Symptomatic Vertigo.—In view of the extent and complicated anatomy of the organ, it is not surprising that its functions may be interfered with by many causes other than organic disease of its structure. Disease or injury of neighboring organs is of course particularly liable to cause such interference, and hence vertigo is a common symptom of ear disease. Equally, of course, is vertigo found in various diseases of the brain and spinal cord.

Anything which causes changes in the blood supply of the organ (anæmia, hyperæmia) may inhibit its normal action. Poisoning by certain drugs, or by bacterial toxins, or by auto-intoxications, such as constipation or gout, will do the same.

Of distant troubles causing vertigo, the most frequent are the various disturbances of digestion. In these cases the vertigo is usually slight and transient, and is relieved by measures which cure the indigestion. An acquaintance of the writer, a physician about forty years of age, has frequent attacks of vertigo whenever there is an accumulation of gas in his stomach or intestines. As his digestion is not strong, these attacks are troublesome. In his case the vertigo is severe, and he has even fallen to the floor under its influence. Getting rid of the gas, by mouth or rectum, gives him instant relief. It is probable that his trouble is due to disturbance of the circulation, consequent upon pressure of the distended bowel from below through the diaphragm, interfering with the heart's action. The prompt relief obtained by expulsion of the gas goes to disprove the presence of toxins.

Constipation vertigo, in its slighter forms, is common enough. It often occurs in conjunction with headache. The only effective treatment is the administration of a brisk cathartic.

Gouty vertigo is allied to constipation vertigo, and the distinction between the two conditions is not always clear. Vertigo is seldom seen in typical cases of acute gout. It comes more often in the irregular forms, with migraine, catarrh of the respiratory and digestive mucous membranes, and pain and stiffness in various joints and muscles. It is often severe, and may be the only symptom which calls the patient's attention to his condition. It is caused by uric acid and other waste products of half-burned albumin, which accumulate in the system and act as poisons, probably directly through the tissues. The diagnosis rests upon the presence of other symptoms of gout, upon the condition of the urine, and upon the absence of signs of disease of the internal ear.

Various disturbances of the circulatory system may cause vertigo. The trouble may lie in the blood, the heart, or the vessels. Of the blood diseases, pernicious anæmia is probably the one most frequently attended by vertigo, but it is also seen occasionally in chlorosis. It is probably caused by cerebral anæmia. It is not usually severe or important. The diagnosis depends upon other signs of anæmia, and the treatment is the treatment of the general disease. Certain cases of leukæmia and Hodgkin's disease exhibit vertigo as a symptom. It may be very severe, in which case it is accompanied by signs of severe general cerebral disturbance, and is due to leukæmic lymphadenomata in the skull (Friedreich).

Cardiac vertigo is seen in many forms of heart disease. It is a common and early symptom of fatty degeneration of the heart. It usually comes on in attacks, which vary in severity over a wide range. The vertigo may be very slight, attended with nausea or slight faintness, or it may be more severe, attended with actual syncope, followed by a period of unconsciousness, and resulting in paralysis, loss of memory or intellectual power, or even death. This form of vertigo is caused by cerebral anæmia, and the diagnosis rests upon the presence of other signs of fatty heart, plus the absence of signs of ear trouble. The exact diagnosis of fatty heart is always difficult and may be impossible, but the undoubted evidence of cardiac incompetency, the absence of signs of valvular trouble, and the typical nature of the vertiginous attack, will usually give a clew.

Vertigo also occurs in other forms of heart disease, especially in disease of the aortic valves, either stenosis or insufficiency. Here the giddiness is slight and more or less constant, being much the same in either condition of the valves. The cause is disturbed brain circulation, and the diagnosis is made by examining the heart.

In aortitis and disease of the coronary arteries vertigo is often noted, especially in connection with attacks of angina. There is nothing characteristic about this form, and it is usually overshadowed by the pain, dyspnoea,

sense of impending death, etc., which belong to the attack. In general arteriosclerosis vertigo is sometimes seen, due probably to changes in the cerebral vessels. This variety belongs among the encephalic vertigos.

In certain general systemic infections vertigo is often seen. Notable among these are influenza, typhus and typhoid fever, malaria, and plague. Vertigo in influenza is seen often; it may be severe, but usually does not last many days. Licéaga ("Twentieth Century Practice of Medicine," vol. xv., p. 286) declares that it is "constant and precocious, and appears whenever the patient attempts to sit, to stand, or even to raise his head." In typhoid fever vertigo is seen during the incubation period and at the beginning of convalescence. It occurs probably in about ten per cent. of the cases. At the outset of an attack of *bubonic plague* vertigo is said to be common. All these forms are caused by the toxin of the disease acting upon the brain or its circulation. They are not accompanied by deafness. They are in many cases merely a symptom of exhaustion, and they do not remain permanently after recovery from the disease.

The vertigo which follows the more severe forms of malarial fever, however, is different. It comes on after the disease has lasted for some time, is attended with deafness and tinnitus, and seems due to inflammation in the internal ear. It is rare. It belongs to the pernicious tropical forms, and there is ground for doubting if it be not due to the quinine rather than to the malaria. Ferreri reports two cases.

Certain drugs in toxic doses cause vertigo. Prominent among these are alcohol, aniline and its derivatives, quinine and salicylic acid. Alcohol probably acts by paralyzing the cortical areas in the cerebellum. Aniline acts in the same way. Quinine and salicylic acid, on the other hand, probably act directly upon the internal ear, since poisoning by either of them causes deafness and tinnitus as well as vertigo. Such cases rarely present difficulties of diagnosis.

Vertigo is also seen in certain diseases and disturbances of the central nervous system, both functional and organic. Seasickness comes under this head, being apparently caused by overexertion of the sense organ of equilibrium. The motion of the ship sends the endolymph flowing rapidly through the semicircular canals, agitating the hair cells violently, and thus interfering with their function. All symptoms of seasickness, it is well known, may be produced by rapid rotation of the body, and the fact that measures directed to the nervous system are the only ones that have been found effective in combating this malady, lends support to this view.

Neurasthenic vertigo is not uncommon. The attacks are short and not very severe, but often occasion much alarm. The diagnosis rests upon other symptoms present, and treatment is directed to the neurasthenia.

Epileptic vertigo is seen oftenest in attacks of *petit mal*. It is paroxysmal and brief. The patient feels dizzy, and perhaps falls to the ground, but recovers at once, and the vertigo disappears as the fit passes (Church).

Of the organic degenerative lesions of the general nervous system, vertigo is found often in *tabes dorsalis*. This vertigo is not to be confounded with the regular and constant ataxia. The two are quite distinct, and ordinarily, however extreme the ataxia, the patient does not suffer from subjective vertigo. When this occurs it is paroxysmal, and may be accompanied by vomiting and great prostration. In multiple spinal sclerosis (Church) vertigo often occurs. Here it is sometimes due to destruction of the central organ or the nerve trunk, and may present the type of Ménière's disease. These vertigos are to be diagnosed and treated in connection with the underlying disease which causes them.

Of encephalic diseases any lesion interfering with any part of the sense organ of equilibrium may cause vertigo. It is most common in tumors or abscesses of the cerebellum and pons, in hemorrhage, or more rarely in basilar meningitis. It is constant and severe, often accompanied by nausea and vomiting, but except in connection with

other symptoms it is not reliable for diagnostic purposes (Starr).

Vertigo also occurs in many cerebral diseases, such as endarteritis, general paresis, cerebral hemorrhage, cerebral syphilis. If the lesion be cerebral the vertigo is usually slight and transient.

Certain diseases of the eyes cause vertigo, especially ocular palsies. This is sometimes reflex and sometimes, probably, suggestive, the result of the double image. These cases can be relieved by blindfolding one eye, or by rectifying the muscular anomaly when possible.

Suggestive vertigo is seen often in persons who for the first time look down from a great height. It is purely psychic, and not a true vertigo at all.

Aural Vertigo.—This may occur as the result of any diseased condition affecting any part of the ear, from the auricle to the encephalic opening of the internal auditory meatus. It is specially common in labyrinthine disease. There is a type of otitis interna which gives rise to a definite and characteristic variety of vertigo, known as Ménière's disease. Anatomically it consists usually of a hemorrhage into the labyrinth, which may be caused by violence, such as a blow upon the head, or certain operative procedures upon the tympanum, such as mobilization of the stapes (Dench). Politzer says with reason that it is not the hemorrhage, as such, that causes the symptoms, but the effect of the extravasated blood upon certain structures of the membranous labyrinth. Therefore it is possible that there should be a considerable extravasate in the labyrinth without causing vertigo, or, on the other hand, a very small amount might produce it, according to whether or not the ampullar nerves are interfered with.

The true, typical, apoplectic form of this trouble is rare. According to Politzer, Frankl-Hochwart has been able to collect only twenty-seven cases in all the literature. It begins with giddiness, of such degree that the patient falls to the ground. He also suffers from intense nausea, vomiting, marked deafness, and sometimes a subjective noise in the ear like a loud report (Starr), or loud and distressing tinnitus (Politzer). The loss of hearing is usually bilateral. It may or may not be complete, but it is always severe. The course of the disease is to a slow and incomplete recovery. The nausea and vomiting first subside, and then, in the course of ten days or two weeks, the giddiness improves and the patient slowly regains his equilibrium. The deafness, however, persists in very nearly its first intensity, and the gait is apt to be more or less unsteady for months or years. Treatment must be on general principles—cold and local depletion at the outset, with rest in bed, catharsis, and nerve sedatives as required, morphine if necessary. After convalescence is established, a general supporting and building-up treatment is indicated. Politzer recommends potassium iodide, gr. xv. a day for three or four weeks, and also pilocarpine, gr. $\frac{1}{16}$ a day.

The diagnosis of true labyrinthine vertigo rests upon: 1, Its intensity—it is always severe; 2, the accompanying deafness and tinnitus; and 3, the absence of signs of (a) cerebral disease, or (b) middle-ear trouble. In Ménière's disease the symptoms are usually bilateral; in traumatic cases they may be unilateral. A very interesting case of this sort is reported by Starr. A fireman fractured the base of his skull and tore the left auditory nerve. His chief symptoms were complete deafness on the left side and constant and agonizing sense of rotation of his body on its longitudinal axis, so that if left alone in bed he would roll over and over in the opposite direction to overcome this feeling. He died on the fifth day after his accident.

Other forms of aural vertigo are less severe and less typical. The vertigo that occurs as the result of trouble in the external auditory canal (cerumen, furuncle) is slight and transient. Occasionally chronic aural catarrh will cause a certain degree of vertigo, which may be quite severe. And in chronic suppurative otitis, with cholesteatoma, vertigo may occur at any time as the result of erosion of the external semicircular canal. The

writer has seen two such cases, one of which was operated upon by Dr. Whiting, of this city, with complete relief. Vertigo occurring in these cases, at the end of a long period of suppuration, is a dangerous complication, and calls for prompt surgical interference.

It is the firm conviction of the writer that in every case of vertigo, whatever be the history and circumstances, the condition of the ears should be carefully and thoroughly investigated.

Donald M. Barstow.

VESICO-VAGINAL FISTULA. See *Vagina, Diseases of.*

VETERINARY SCIENCE IN ITS RELATION TO PUBLIC HEALTH.—Veterinary science includes in its domain a complete knowledge of the domesticated animals. It is not limited, as many suppose, to their anatomy, physiology, pathology, and therapeutics, but, in addition to these subjects, it covers zootechnics, or the economical production of animals, veterinary hygiene, or the maintenance of animals under healthful conditions, veterinary sanitary science, or the control of contagious diseases, the exclusion of exotic contagion and the inspection of animal food products. It may be said, therefore, that it is the province of veterinary science, (1) to aid in producing a supply of animal food of the best quality and in the greatest abundance; (2) to protect the sources of this food supply so far as possible from the ravages of communicable diseases; (3) to prevent the use of animal food products contaminated by disease; (4) to guard mankind from the plagues and parasites of animals which may be transmitted to the human subject; (5) to make scientific investigations of animal diseases which will advance our knowledge of these diseases and of general pathology. All of these lines of work operate directly to improve the public health.

The Animal Food Supply.—An abundant supply of wholesome food is necessary for the preservation of the public health; and as the food supply deteriorates in quality or diminishes in quantity the conditions of life become more difficult. Want, distress, and misery result. Following the impoverishment of the body come disease and an augmented mortality. Famine and pestilence are words which the long and bitter experience of the human race has associated together. The scarcity and bad quality of food is felt first and most severely where the population is most dense, and where a large part of the people, at best, have a serious struggle for existence. It follows, of course, that as a country develops and becomes more densely populated, as cities multiply and contain a greater number of people who even in times of abundance must eat inferior food, the effect of deteriorations of the food supply becomes more evident. A nation with an abundant supply of good food is already well on the way to prosperity and healthfulness.

Animal food forms a most important part of the general food supply. The stock of animals maintained in the United States at this time for the production of human food is approximately 17,105,227 milch cows, 44,659,206 other cattle, 63,964,876 sheep, 46,922,624 swine, and 250,681,593 fowls of various kinds. The raising, marketing, and slaughtering of these animals, and the production of the milk, butter, and cheese involve many problems which the veterinarian can solve, or at least should help to solve. And just as the increasing density of the human population brings new problems to the health officer and sanitarian, so an increase in the number of animals and the change from natural to artificial conditions bring new problems to the veterinarian. When animals are allowed to roam over large tracts of land, seldom or never stabled, and not pressed for the largest attainable product, when traffic between different sections of the country is at a minimum, the animals are found in the most vigorous and healthful condition. On the other hand, when animals are crowded together, stabled, fed to their highest capacity, and become a subject of traffic, disease and parasites multiply; questions of ventilation, of general sanitary methods, of proper feeding, of pro-

tection from contagion and parasites arise and become more and more urgent.

The quantity of animal food consumed in the United States cannot be very accurately estimated. Under the federal meat inspection service there were slaughtered in the year ending June 30th, 1902, 6,115,805 bovine animals, 7,434,478 sheep, and 25,277,107 hogs. In addition, many of the same kinds of animals were slaughtered for local consumption or in establishments where no inspection has been instituted. There is no systematic inspection of poultry at the time of slaughter, but the production of an abundant supply of poultry and eggs must depend somewhat upon the preservation of fowls from contagious diseases, and the knowledge through which this is to be accomplished must come from veterinary sanitary science.

The quantity of milk in its natural condition consumed in the United States is about 21,751,258,560 pounds, of condensed milk 172,647,355 pounds, of butter 1,465,299,727 pounds, of cheese 278,538,146 pounds.

These figures show the enormous extent to which animal products enter into the food supply of the country, and they indicate the importance of establishing safeguards which will make it reasonably certain that such products are wholesome and will not prove a source of disease to the consumers. Dairy cows should be inspected from time to time to determine that they are free from disease, and especially that they are free from diseases communicable to man. Dark, unventilated, damp, and filthy stables should be abolished, and it should be insisted that animals be kept under hygienic conditions. Milk is too often sold from cows suffering from tuberculosis, actinomycosis, metritis, mastitis, and other diseases which may seriously affect its quality.

It is equally important that animals should be inspected at the time of slaughter. A certain proportion of diseased animals will be found even among those which superficially appear the most healthy. It is a common practice to ship to market animals which no longer thrive on the farm; and while in many cases the owner does not know what ails them, it often happens, as with hogs affected with cholera, that they are shipped to market because they are known to be infected, and that the losses among them will be heavy if they are retained upon the farm. In addition to the animals diseased when they leave the farm, there are many which become bruised, wounded, crushed, and otherwise badly injured in transit. Some of these when they reach the abattoirs are suffering from abscesses, septic infection, abortion, and various other pathological conditions the result of injuries. These conditions can, of course, be recognized and graded as to their seriousness only by the trained veterinarian.

The Protection of Animals from Infectious Diseases.—Probably the most important line of work for preserving the food supply both in quantity and quality is that which controls, eradicates, and excludes the contagious and infectious diseases of animals. This is particularly necessary at the present time, when transportation routes and means of communication between all parts of the world have multiplied, when facilities for shipping animals and animal products have been greatly increased, and the time required to bring these from the most distant part of the world has been enormously diminished. We have reached a degree of development in these matters when it may be said that the time of transit is no longer a protection against the importation of contagion from the most distant countries.

As the veterinarian examines the condition of animals in other countries he finds that Asia, the Philippines, and Africa are overrun with rinderpest, that most deadly of all cattle diseases. He finds the contagious pleuropneumonia of cattle in Asia, Australia, Africa, and in several countries in Europe. He finds epizootic apthia, or foot-and-mouth disease in Europe, Asia, and South America. He finds surra in India and in the Philippines. He finds Texas fever in most warm countries of the world, including South Africa, Australia, South and Central America, the West Indies, Mexico, and the southern parts of the

Vol. VIII.—15

United States. He finds sheeppox, scabies, anthrax, hog cholera, and various other destructive diseases widely disseminated throughout the world. The country must look to him to exclude such diseases, which would not only diminish the food supply, but which would increase the proportion of diseased animals coming to the abattoirs.

The United States, fortunately, has been free from some of the worst of these plagues, but distance is no longer the barrier that it has been in the past, and active measures are now required against them. Europe has again and again suffered the most terrible losses from invasions of this character. And at this writing, foot-and-mouth disease has been prevalent in most of the countries of continental Europe for more than fifteen years. Considering the large number of live animals of various kinds which annually enter the United States from abroad, including domesticated animals, menagerie animals, and those for zoological parks, pets, etc., also, the enormous quantities of wool, hides, and hair imported, it is plain that there are many channels through which contagion may be carried.

Within the last year there has occurred, in the New England States, an outbreak of foot-and-mouth disease which started near the docks of Boston, undoubtedly from imported contagion, and which has been stamped out only by the most prompt and rigid measures. With this disease in South America threatening us from the south; with rinderpest in our Philippine possessions; with foot-and-mouth disease and pleuropneumonia still existing in Europe, it is plain that nothing less than constant vigilance can preserve our flocks and herds from these plagues.

The measures adopted in the United States for excluding exotic contagion consist of an inspection of all susceptible animals, the quarantine of ruminants and swine which come from infected countries, and the disinfection of the hides of neat cattle. The period of quarantine varies from fifteen to ninety days, the animals being held in the regularly established quarantine stations of the Government. Cattle imported for breeding purposes must be tested with tuberculin to guard against tuberculosis. An inspector from the United States is now stationed in Great Britain to make such tests before the animals are purchased, as it has been found that a very large percentage of some of the principal British breeds are tuberculous. On the other hand, animals from the Channel Islands have been found free from tuberculosis and are no longer tested.

The measures for controlling contagion within the United States consist of an inspection at the principal stockyards, and at other convenient points for supervising the interstate traffic. This inspection is maintained by the Federal Government and has for its object at present the control of Texas fever of cattle, scabies of sheep and cattle, and hog cholera. In addition, many of the individual States and municipalities maintain a service for the repression of glanders, tuberculosis, rabies, Texas fever, scabies, and other diseases of the domesticated animals.

The Protection of Mankind from the Communicable Diseases and Parasites of Animals.—That there are certain diseases of animals which are communicable to man has long been known. There are also parasites of animals which likewise may be communicated and which produce results more or less serious according to the species of parasite which is involved. Among the most common of these diseases and parasites are: (1) Glanders, a disease of the genus *Equus*, generally fatal when contracted by man; (2) anthrax, a disease of horses, cattle, sheep, and swine, appearing in man either as malignant pustule or as internal anthrax, and often fatal; (3) tuberculosis, a disease common in cattle and swine, but also occurring in horses, sheep, goats, dogs, poultry, cage birds, and menagerie animals; (4) rabies, a disease of the genus *Canis*, communicable to all warm-blooded animals and to man; (5) epizootic apthia, commonly known as foot-and-mouth disease, a very infectious malady of cattle.