V.

A Dissertation on the Bite of a Rabid Animal; being the substance of an Essay which received a Prize from the Royal College of Surgeons in London, in the year 1811. By James Gillman, F. L. S. Member of the Royal College of Surgeons in London. 8vo, pp. 181. Callow.

Those who consider the very imperfect state of our knowledge, with regard to the nature and efficient treatment of the deplorable disease which results from the bite of a rabid animal, notwithstanding the assiduity with which every case has lately been watched and recorded by medical men, will perhaps not expect to derive much important information from one of those ephemeral productions, commonly drawn up in reply to the prize questions of learned bodies. The honorary rewards, offered upon those occasions, are principally calculated to excite the ambition of students, who have little practical information to communicate; and these laurelled essays, therefore, are commonly distinguished rather by neatness of arrangement, and deductions from the labours of others, than by any actual augmentation of the sum of knowledge upon the proposed subject of inquiry. The best tendency, perhaps, of the institution of such rewards, is the direction, which they sometimes give, to the pursuits and investigations of individuals, who thenceforth adopt the subject of their early essay as the favourite object of their future observation and experiment, and thus ultimately accumulate a mass of valuable information.

This will, perhaps, be the principal advantage of the prize offered by the College of Surgeons in the present instance. But although Mr. Gillman's essay cannot be said to have thrown any new light upon the obscure subject, which he has attempted to elucidate, yet it is creditable to his information in respect to the known facts, and contains some additional observations from his personal investigation, respecting the morbid anatomy of rabies in brutes, which are worthy of being recorded.

He divides his essay into three sections, which treat of the characteristics of rabies in dogs,—of the treatment of the bite of a rabid animal,—and of the consequences of such a bite, respectively.

In describing the symptoms of rabies in the dog, he seems to have
have had before him an ample account of the phenomena of the disease, as it appears in that animal, which is given at length in Dr Rees’s Cyclopaedia, under the article Dog. It must be observed, on a perusal of these histories, that there is no pathognomonic symptom of rabies in the canine species; but that, like other febrile diseases, it occurs with a considerable variety of symptoms in different cases. In some of the instances, quoted by Mr Gillman, the real nature of the disease was questioned, and doubtless very questionable; and was only presumed to have been rabies from the appearances which presented themselves on dissection. In fact, the disease in the dog appears to be, in some cases, a sort of typhoid fever, with black and parched tongue, thirst, and some degree of delirium: in others, the tongue is natural, and the saliva abundant. In all cases, the animal appears to lap water readily, though in some he does not swallow it; and there seems to be also considerable variety in the disposition to bite; the animal being sometimes, though rarely violent, as the term mad would imply; but often shy, and only peevish.

The dissections have exhibited appearances not less various. In one case, furnished by Mr Carlisle, who examined the rabid dog after death, “no peculiarity of stomach, oesophagus, or intestines” was discovered, (p. 21.) while in others, quoted from the publication of Dr Beddoes, on fever, from Dr Clarke’s case related in this journal, and from other authorities, marks of inflammation in various degrees have been observed in the fauces and salivary glands, or in the oesophagus, stomach, or intestines, and sometimes in the brain and lungs: this inflammation, again, has sometimes appeared in patches, and sometimes it is more generally diffused; sometimes it has been observed in the internal, and sometimes in the external coat of the stomach; and sometimes every viscus of the abdomen and thorax have suffered from inflammation, while the head remained entirely free from any morbid change.

In a case, which occurred under Mr Gillman’s observation, subsequent to the presentation of his essay to the College, the following appearances presented themselves on the dissection of the dog.

“The pia mater was slightly inflamed; the under surface of the epiglottis was also inflamed; the trachea and oesophagus exhibited no morbid appearances; the stomach contained a chocolate-coloured gelatinous-like fluid; the villous coat was very generally inflamed, and several of the rugæ were livid, and of a chocolate colour; there were a great number of mortified spots, some having the appearance of flattened black currants; some more raised, like pustules; and in some parts the villous coat was ulcerated.
ulcerated and destroyed. No other parts exhibited any morbid appearance."

p. 31.

The author has given a figure of this stomach, in a sort of aqua tinta, which conveys but an indifferent notion of the disease. He adds, that Mr Brookes, in Blenheim Street, has a stomach, taken from an animal which died rabid, exhibiting similar appearances. Mr Gillman inoculated two rabbits with the fluid of these "apparent pustules;" but no change in their health ensued *

The dog, just alluded to, bit an old sow, and two young pigs, in its rabid state; all the three died rabid, and were dissected by the author. Both the symptoms of the disease in the swine, and the morbid changes observed after death, are worthy of notice, as they are the principal novelties contributed by the author.

"One of the young pigs, already referred to, which had been bitten least, and that only about the ears, on the morning of the tenth day after the bite refused his food. When offered to him as usual, by placing it in his trough, after smelling at it he ran back, pointed his nose in the air, and was much agitated; in the evening he had a convulsive motion and twitching of his limbs. The eleventh day (the second of the attack) he became extremely violent;—when I saw him there was a considerable quantity of frothy saliva about his mouth: he started, and threw himself about in a most extraordinary manner; sometimes he sprang at least three feet from the ground; then beat himself forcibly against the wall; and sometimes ran round on his hind-legs, as dogs do when playing with their tails. This he continued till exhausted he would fall down and pant, but soon again became convulsed, and leaped from the ground as before, falling with considerable violence on his back or sides. About noon, the person who fed him gave him a slight blow on the head, and killed him. On dissection, the only parts inflamed were, the under surface of the epiglottis, and the villous coat of the anterior surface of the stomach to the extent of the palm of the hand. The head had suffered such injury from the violence of the convulsions, that no dissection could be made; the skull and lower jaws were fractured: tongue in its natural state." p. 33.

The other young pig, which was seized on the fourteenth day from the bite, had been severely torn and wounded by the teeth of the dog. His disease commenced with rigors; he stood shivering beside his trough, appeared much debilitated, and refused food. On the second day of the disease, his posterior extremities were paralytic; he lay on his side, frothing at the mouth, and pulling the straw about with his fore-feet and teeth. The eyelids

* Mr Gillman also inoculated two rabbits with the saliva of one of the rabid pigs without producing any disease whatever. p. 38.
eyelids were separated, so that he seemed to stare, and the eyes were inflamed. “On the third day, it lay the whole time on its side, and, except occasionally slight twitchings in the legs, it remained perfectly still and unable to rise, having lost all power in its extremities: it squealed when touched, as if the skin were more than usually sensible, and particularly when the mother went near it or touched it. Towards the evening, the breathing became so feeble as scarcely to be discerned, and the conjunctive membrane so turgid as to protrude beyond the palpebrae.” It died at a late hour the same night.

On dissection, the brain exhibited a considerable haemorrhage from the rupture of the veins of the pia mater, near the superior longitudinal sinus, and the pia mater itself was found much inflamed: the tongue and oesophagus natural; the under surface of the epiglottis, the inner membrane of the trachea posteriorly, and the villous coat of the stomach near the cardia anteriorly, slightly inflamed, one or two of its rugae being livid.

The old sow began to pick up straws and dirt twenty-seven days after the bite, and on the 28th refused food, but was quiet and harmless, constantly rubbing the bitten parts, as the others had also done. In the evening she eat some gooseberries, but swallowed them with difficulty. On the next day she appeared dull, but came out of her sty: some milk was offered her, when she made several attempts to drink, but could not: there was a peculiar convulsive motion of the head and twitching of the under jaw, but no dread of fluids. In the evening, the convulsive motions of the head were much increased, and recurred every quarter of an hour; she then “squealed out, and became alarmed when any one approached her.” On the fourth morning, these symptoms became still more frequent and violent. She often jumped up suddenly upon her hind legs, and threw herself upon her back with great force. She seems, indeed, to have exhibited much of that extreme irritability which characterizes the disease in the human subject: for “she was affected by the least noise;”—Mr Gillman says, “when I stamped my foot firmly on the ground, she was thrown by the noise into the most violent convulsive state, and squealed horribly. To such a high degree, in short, did the morbid excitability of the nervous system arrive, that the poor animal was affected by the least touch, which seemed to be torture. In the evening the symptoms were still more aggravated: she beat herself against the walls, and sprang up against the roof of the sty.” These agitations continued till two in the morning, when she died.

The following were the appearances which presented themselves to the dissectors: viz. slight marks of inflammation about the
the epiglottis, and the pylorus, with some livid marks in the villous coat of the stomach. The state of the brain is not mentioned. It would seem obvious, however, that both the paralysis of the second piax, and the violent convulsive jactitations of the other two, are principally referable to the morbid condition of the brain. But upon these appearances, or the connection of the symptoms with them, the author makes no observation.

He now enters upon the investigation of the origin of rabies in dogs; and, after shewing that it probably is produced independently of particular climates, of putrid aliment, of deficiency of water, of want of perspiration, or of the worm under the tongue, to which it has been at different times ascribed, he expresses his belief that it originates somewhat like typhus in the human subject, and is not always produced by inoculation by means of a bite: that is, he thinks it is occasionally brought on by the confinement of dogs, without exercise, in close and filthy kennels; and that the success of Mr. Trevalyan, as related by Dr. Bardsiey, in clearing his kennel of the disease by changing even the pavement, after other means of purification had failed, affords presumptive evidence in favour of that opinion; and, consequently, the method of quarantine adopted by Mr. Meynell, and recommended by Dr. Bardsiey, on the supposition that the disease originates exclusively from contagion, will not be a sufficient preventive alone. At all events, he shews, from some facts stated by the reverend sportsman, Mr. Daniel, that the poison lies dormant in dogs, in some instances, four, five, and six months; and, consequently, that the period of two months is not sufficient for quarantine, before a new dog is introduced into a pack.

The author concludes this section with recapitulating the inferences, deduced in the course of it, which are sufficiently indecisive; the principal conclusions, for instance, are,

"That appearances of inflammation, particularly of the stomach, are not always found after death; and that the bodies of these animals occasionally exhibit no mark of disease whatever.

"That, although all the preceding symptoms may be absent, as fierceness, loss of appetite, and dread of water, and there should be no marks of disease after death, &c., the dog is capable of communicating this disease to various animals, particularly to the human species." p. 83.

In fact, the most comprehensive view of the records of medicine on this subject, lead to nothing more satisfactory; for, although some morbid change of structure has commonly been discovered by dissection of rabid animals; yet the organs which were found diseased in one, were altogether sound in another, and
and none of the morbid conditions were adequate to explain all the phenomena of this singular and formidable malady.

In his second section, Mr. Gillman reviews the opinions that have been urged in favour of three modes of local treatment of the wound, viz., the use of caustics, of ablation, and of excision of the bitten parts; deeming the reputed preventive medicines totally inefficacious. His chief objection to the caustic arises from a notion, that the poison is not decomposed by such a chemical agent, but that a mere mixture takes place of the caustic substance, the decomposed animal fibre, and of the poison. "A new compound is formed, a saponaceous mass, or eschar, which is generally suffered to remain until it sloughs away." p. 94. Whence, he thinks, that actual mischief is perhaps produced both by the retention of the virus, and by the more extensive exposure of it to the action of the absorbents. And he quotes several cases, in which rabies occurred, after the most assiduous employment of caustics. He, therefore, recommends the speedy and complete excision of the part, after careful ablation, both of the wound and of the external surface. The recommendation of the latter caution, as well as of changing the knife, as often as it appears to enter into the wound made by the tooth, lest the sound parts may be inoculated by the very operation, appears to be judicious. When the nature and situation of the wounded parts render excision dangerous or impracticable, he advises us to have recourse to ablation only, as the next preferable preventive; for which purpose he recommends a weak solution of ammonia, consisting of one fifth part of the latter to four of water; but whether he employed the pure or the carbonated ammonia, he has omitted to state. The most assiduous application of the lotion, aided by the use of a syringe, and followed by that of warm water, he thinks may successfully remove every particle of the virus, and secure the patient from future rabies. He accords with the opinion, now generally adopted, that this security may probably be obtained, by resorting to excision, even at a distant period from the bite, and when the wound has been long healed; since the poison appears to lodge in the part, and is only taken into the constitution at the time when the symptoms of rabies commence.

The author quotes some experiments made by Dr. Zinke, of Jena, but from what publication, in this, as in many other instances of his quotations, he omits to state. Dr. Zinke inoculated three dogs, a cat, two rabbits, and a cock, with the saliva of a dog, which had died rabid, mixing the virus, in different instances, with volatile alkali, a strong solution of arsenic, phosphorated water, and tincture of cantharides, and afterwards washing the
the wounds with the same substances. One dog, on the tenth day after inoculation, one rabbit on the eleventh day, the cat on the ninth, and the cock on the fourteenth day, were seized with rabies, which proved fatal; the rest had no disease. From these experiments, we acquire no information, except perhaps an argument in refutation of the opinion, maintained by some physicians, that the rabies originates like tetanus, not from the instillation of a poison, but from the irritation of the bite: but as there is a wound inflicted in the process of the inoculation, although such a wound has never produced rabies, when made with a clean instrument, even these facts will probably not convince those inveterate sceptics.

In the third section, which relates to "the consequences, &c, of the bite of a rabid animal," i. e. to the disease usually called hydrophobia, as it appears in the human subject, there is nothing particularly worthy of notice, or novel, except a history of the symptoms in a case, which the author had an opportunity of seeing. In stating the literary history of the disease, in a brief and hasty manner, (in which he appears to have had another article in the afore-mentioned Cyclopaedia in his eye,) he commits a mistake in saying that Aristotle has remarked, that persons bitten by rabid animals, die of rabies; for Aristotle excepts man alone, of all animals, from the fatal infection *.

In many passages the author betrays an imperfect acquaintance with the correct structure of his language; but, on the whole, he writes with perspicuity.

VI.

Monographie des Dégnerations Skirreuses de l'Estomac, fondée sur un grand nombre d'observations recueillies tant à la Clinique Interne de l'École de Médecine de Paris, qu'à l'Hôpital Cochin. Par Frédéric Chardel, D. M. à Paris, 1808, pp. 213.

This work is inscribed to Corvisart, and appears to be written by a pupil of his very excellent school. The author has at-