

way to them, I mean by making unconnected remarks to the attendants. No low or typhoid symptom appeared throughout the whole course of the disease. In the early stage of convalescence, I was allowed nothing stronger than milk, tea, weak chicken-broth, and the like; nor did I take any thing stronger during the whole length of the disease. For nineteen nights and days, I cannot say I was ever sensible of being asleep, nor could any of the attendants ever find me so. Towards the latter end, or from the 12th to the 19th day, want of sleep was the only complaint; and, for several weeks after this period, I never slept above an hour or so at a time. Vertigo continued on the least exertion for some months.

(Signed) J. CLARKE, M. D.

Portsmouth, 20th August 1809.

#### IV.

*Lues Bovina Intertropica, and the consequences thereof; with Remarks.*

By C. CHISHOLM, M. D. F. R. S. &c. &c.

“Regeram enim ego magnum Hippocratem, cui nullius rei scientia vilis habita est, non puduisse de Boum morbis verba facere.”

RAMAZZINI.

I BELIEVE the lues or pestis bovina is a very rare disease within the tropics;—and, indeed, before the middle of the seventeenth century, it does not appear to have frequently occurred, even in Europe, although since then, there are many records of its devastation on the Continent, and in Great Britain. In the year 1783, in the island of Grenada in the West Indies, a very singular coincidence took place. Late in that year, the cynanche maligna appeared in several parts of the island, for the first time observed, I believe, by the oldest inhabitant, in that or any other of the West India islands. The symptoms of this disease were most violent; its rapidity to a fatal termination most alarming. But the circumstance which gave greatest singularity to this disease, was its concomitancy with a contagious distemper, of a very extraordinary nature, (within the tropics), epidemic among the cattle and mules in the same parts of the island, wherein the cynanche maligna appeared. Both were new and unknown, and both were concomitant; insomuch, as to render it difficult to perceive











perceive whether they proceeded from a cause common to both, or whether the cynanche was an effect, on the human race, of an imported contagion, which seemed peculiarly, in the first instance, to affect the horned cattle and mules. These animals whilst feeding, and apparently in perfect health, in the pastures, suddenly fell down dead. The malignity of the disease had so rapid a progress, that seldom could other symptoms, or rather any symptoms be observed:—sometimes, a few minutes before death, the animals were languid, lay down and neglected their food. Sometimes a swelling of the glands of the throat formed a large tumor, which might be perceived for some days before death; but though this swelling sometimes suppurated, and though the matter was discharged, it never proved critical. On dissection, the whole course of the trachea or œsophagus, the stomach, and greater part of the intestines, were found in an inflamed or a gangrenous state. Various modes of cure were adopted, but, except in a few cases, always without effect. In these few excepted cases, the Peruvian bark, given in very large quantity, seemed to complete a cure; but the use of this medicine was too expensive to render it extensive, and the instances I have mentioned, I believe, were experimental. Methods of prevention were also tried—of these, I was assured, that tar rubbed on the forehead, to the nose, and under the throat, had frequently the desired effect. At this period, 1783, Grenada had intercourse only with some of the other islands in possession of the French, within the tropics, and with Ostend in Austrian Flanders chiefly, in Europe—there was no intercourse with North America, and none whatever with the Spanish colonies; and, upon the whole, well-grounded reasons exist for believing, that the fomes of the bovine pestilence was imported from Ostend, by the Imperial neutral ships which exclusively carried on the only trade the circumstances of the existing war then permitted.

On those plantations where care was taken to burn the carcasses of the diseased cattle, no further consequences resulted. But these unhappily were few. On those where this precaution was not used, and, indeed, it is surprising that it should be used in any, seeing that the disease was new, and its effects unknown, the flesh of the cattle that died being dug up, and ate by the negroes, proved most dreadfully septic, producing a pestilential carbuncle, attended by a malignant fever. There were not wanting instances of the iniquitous practice of offering the flesh of diseased cattle for sale, and on these occasions, such was the highly septic nature of this poison, that even touching the flesh, in such manner as that part of the sanies adhered to the



finger, produced the same fatal consequence. A remarkable instance of this occurred in a respectable married lady of the island. In the finger to which the virus was thus inadvertently applied, a pestilential carbuncle appeared, and her life was preserved by the amputation of the diseased member.

This disease, thus originating, was distinguished by the name of malignant carbuncle; and among the French part of the population by that of *Charbon*. The series of its symptoms was thus: Without any previous symptom of disease, the patient complained of a tumor, often in no certain part of the body, but generally on one cheek, resembling the inflammatory vesication which succeeds inoculation for the small-pox. Soon after a fever came on, but by no means violent, and continued during the twenty-four or thirty-six succeeding hours, when it gradually subsided, and left the patient apparently without a single symptom of disease, except the tumor. This tumor was nearly circular, had a depression in the middle, and the skin immediately around it was œdematous. At this period, however, in the middle of the tumor, a small whitish carbuncle arose, and breaking, discharged considerable quantities of a yellowish ichor. But this seeming freedom from disease was, in about twenty-four hours after the eruption of the carbuncle, succeeded by vertigo, a most excruciating pain stretching across the abdomen, accompanied by anorexia, thirst, and palpitation of the heart; the pulse sunk below the natural state; cold sweats broke out; and in short, the patient was carried off in twelve hours after the seizure of these latter symptoms. It is obvious, that the danger of the disease lay chiefly in its obscurity and novelty—for among the negroes more especially, being much subject to sores, sometimes attended with slight symptomatic fever, and which were easily cured, no apprehension of fatal consequences, for some time, was excited; and when the second stage or state came on, the administration of the most powerful antiseptics was unavailing. More than half of those thus diseased, therefore, perished.

On dissection, the stomach, and all the intestinal canal appeared inflamed, and generally covered with large livid blotches; and in the *valvulæ conniventes* was a considerable quantity of a yellow gelatinous matter. Large quantities of the same matter were found among the muscles of the abdomen, and between them and the *peritonæum*. The brain and all the other viscera were sound.

The principal, and indeed only beneficial remedies, were bark and wine, exhibited before the commencement of the second state.



It will be considered a very extraordinary fact, that the cynanche maligna disappeared a short time after the lues bovina. My friend, Dr John Stewart, who had the best opportunities of seeing both diseases, for it was chiefly within his practice they occurred, writes to me: "I went to Grenada early in 1774, but I neither witnessed nor heard of any instance of the cynanche maligna in that island, until the end of 1783, nor did it appear after 1786, until I finally left the island in 1797."

The lues bovina, I have said, is a very rare disease within the tropics. I have been assured by a gentleman long resident in Jamaica, and owner of considerable cattle-pens, that nothing of the kind has, to his knowledge, occurred there; and it is certain neither Brown nor Ling have noticed it in their valuable works: It has appeared in Barbadoes only, as far as I have been able to learn; and there it seems to have assumed the same alarming aspect, and to have produced the same devastation among the horned cattle; and, in many instances, to have given rise to similar consequences among the human race, we have found it marked by in Grenada. The learned historiographer of Barbadoes, the Reverend Mr Hughes, gives no information relative to the origin of this distemper in that island, but he thus describes it: "Among the distempers which infect the horned cattle, there is one of a very contagious and pestilential kind; for a beast shall seemingly, by his feeding heartily, and in appearance be otherwise well, yet in a few hours, without any symptom of a previous disease, drop down and die. These, when dead, are by the most judicious planters immediately buried, and often there is a watchman appointed, to prevent the new bought negroes, and others of the poorer sort, from digging up the carcasses and feeding upon them; for when this happens, it generally costs them their lives, especially if they eat the liver, or any part of the entrails. In this case the distemper breaks out in the shape of plague-boils, near the arm-pits or temples." He adds, "I have known one very extraordinary instance of its virulency. A negroe woman, carrying upon her head, in a wicker-basket, a piece of this flesh, that had been newly cut off from a dead distempered carcase, a few bloody sanious drops fell through the basket upon her left breast. In a few hours she was swelled all over, and was not able to move a limb; and in about two days there appeared mortifying ulcers in every part where the drops fell; and though speedy methods were used, by fomentations, and other means, to prevent its further progress, yet neither these, nor taking off the infected part, could put a stop to it; at last the whole breast and adjacent affected parts were taken off close to the bones. In this deplorable condition the surgeon gave her



her over." He then says, she was cured by "a notable woman in the knowledge of simples," by an application composed of "smooth elder leaves, soldier bush, dialthœa and christmas bush, boiled, and brought into consistency with bees wax and hogs-lard." Fol. ed. 1760, p. 62. A distemper equally fatal prevailed in some districts of Barbadoes in the year 1795. In the month of April of 1796, I made a tour of the island, and at the plantation Apeshill, near Hole's town, had the following very curious information from our host, Mr Cummins, a very intelligent and respectable planter. The malady was fatally epidemic on this plantation, and carried off more than 50 head of cattle; and the number of negroes who died in consequence of eating the flesh of the diseased animals, was also considerable. The description which Mr Cummins gave of it, ascertained its identity with the Grenada distemper of 1783-4; but he could assign no cause for it. A very singular instance of the excessive virulence and effusion of this poison occurred in his own family. One of his children, a girl of three years old, during the prevalence of the epidemic, took for her breakfast one morning so large a portion of milk, as to leave a very scanty allowance to the other children. This milk was taken from a cow which unfortunately then laboured under the distemper. At the end of four days, the child was seized with all the usual symptoms of the plague, sore, or malignant carbuncle, which had been observed to take place in the negroes who ate of the flesh of the diseased cattle. She recovered with the utmost difficulty; but the deep mark left by the carbuncle on her arm still remained.

Having thus laid before the reader all I know of this extraordinary disease within the tropics, I shall proceed to inquire how far it corresponds with the anthrax and species of plague considered as peculiar to quadrupeds, more especially horned cattle, of nosologists and others, who have given much of their attention to the subject. Sauvages gives a character of anthrax so exactly the counterpart of the Grenada carbuncle, or charbon, as to remove all doubt of their identity. *Est tumor carnis immersus ut plurimum, in cuius apice est vesicula grisea, subtus sphacelosa, in ambitu dolor et rubor quandoque leves; excoriatus vel suppurascens, serpit in viciniam, et colorem intense rubrum exhibet.—Accidit potissimum pauperibus sordidis, qui carnes animalium, ut vervecum, anthrace defunctorum edunt, aut qui eorum lanas tractant, adipem fundunt ad candelas parandas,"* &c. *Nosolog. Method. tom. i. p. 147, Amsterdam ed. 1768.* But the Grenada original and consequential disease partook of Sauvage's four species of plague, which more peculiarly are confined to quadrupeds, and more immediately to horned cattle;



cattle; or have their origin among men from them, not by contagion, but by the morbid flesh of the latter becoming the food of the former; or by the application of the poison to the surface of the skin, as in Mr Hughes's negroe woman, and the Grenada lady. Thus the pestis Bovilla (*dysenteria pecorum*) seems to have been the Grenada murrain modified by climate; the European passing through all its stages, the tropical hurried into the last or gangrenous state, without the intermediate gradation of change. Thus the pestis carbunculosa approaches very near to the charbon, or malignant carbuncle, which the former was the indirect cause of;—the description is almost precisely similar, the cause is entirely so. Thus the pestis glossanthrax seems to have been a carbuncular affection towards the root of the tongue chiefly, which corroded that organ in a few days, and finally destroyed the animal. Cattle, horses, mules, and even men, were the subjects of this plague, in Languedoc, in 1732; and the morbid appearance of the trachea, œsophagus, and stomach of the cattle inspected after death at Grenada, marks the affinity of the two diseases. Thus too the pestis anticardia, with the exception of its being sporadic, seems to resemble the Grenada murrain, in the affection more especially from which the anticardia derives its name, (in antica vero pectoris parte excrescit tumor phlegmonodeus pugni magnitudine qui anticardia dicitur.)

If we extend our inquiry further, it would seem, I think, by comparing the character of the Grenada murrain and charbon with the descriptions left us by writers on this subject, that it bears, the former more especially I mean, not a little affinity to the murrain, or “distemper among the horned cattle,” which has prevailed in various parts of Europe, during the last two centuries. One very important, some indeed are inclined to consider it the most important, distinction, is the eruption of pustules at a certain period of the disease, generally the fifth or sixth day, precisely resembling those of the small-pox. So marked has this symptom been, so decidedly has it defined the peculiar nature of the disease, that, joined to another circumstance, which experience and observation have detected, viz. that the disease attacks only once during the animal's life, it has led to the establishment of a mode of prevention, answering fully the expectation of its inventor, the late Dr Layard. Sauvage, however, seems to have had less faith in this symptom, and if his observation has been correct, certainly on good grounds,—paucissimi sanabantur obortis ad nares et caput *pustulis crustaceis*. One of the best accounts we have of the murrain in Europe, is given by Ramazzini, in his dissertation on the contagious epidemic, which appeared in the northern districts of Italy, in the year 1711. The expres-



sions made use of by this writer, induce us to consider the epidemic he describes as most singularly rapid and violent in its progress:—"Quam inopinate, quam violenter bubulum genus dira contagio pervaserit flammæ ad instar quæ ope nulla humana consopiri, ne dum restingui potuerit,—tam magnam ac horrendam boum stragem edidit, ut tum rura, tum civitatem mærore, ac metu completerit." Its symptoms were nearly those attributed to the *pestis bovilla* by Sauvage, only the eruption seems to have been of a less equivocal character; pustulæ quinta vel sexta die per totum corpus erumpentes, ac tubercula variolarum speciem referentia. This, however, did not diminish the fatal tendency of the disease,—communis tandem omnium eodem modo circa quintam et septimam interitus, cum Boves paucissimi evadunt, iique forte potiùs quædam, quam remediorum dynami. The dissections made exhibited some very singular morbid changes.—In omaso, corpus quoddam durum, et compactum, ventriculi parietibus fortiter adhærens, magnæ molis et intolerandæ graveolentiæ; in aliis vero partibus repertæ sunt hydatides, in cerebro, pulmonibus, sicuti etiam ingentes vesicæ solo flatu plenæ, quæ dissectæ diram mephitim exhalarant, ulcera in radice linguæ, et ad illius latera vesiculæ sero plenæ. Ramazzini had no doubt the seat of the disease, and its proximate cause, were lodged in the very extraordinary substance found in the stomach. It is, indeed, probable, that the morbid changes were more minutely observed by Ramazzini than in Grenada; but there is certainly a considerable difference, and more especially in this substance, which could not have escaped detection, had it existed,—durum compactum et instar calcis. This, however, and the variolous eruption, and the discharge from the glands of the nose, and from the fundament, may have been the product of a more protracted action of the morbid cause. Allowing, therefore, that the virulence of this, and the violence of its action, were in the ratio of the temperature of the respective climates in which the diseases occurred, and that, consequently, a termination of life took place, in the torrid zone, before the course of the symptoms had been effected, and the various features of the disease, in its less tumultuous form, evolved, we shall be inclined to conclude, that the contagious *Epidemia Boum*, of both climates, was precisely the same disease. In this persuasion I am farther strengthened, by observing the anomalous and tumultuous fever, which sometimes precedes the natural eruption of the small-pox, within the tropics\*.

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\* Thus, too, Sauvage remarks, quippe dantur pestes abortivæ in quibus bubones non erumpunt et omnes ægri intereunt, ut in variola suppressa cujus pustulæ



This dreadful pestilence was introduced into the Vicentine territories from Dalmatia,—a single diseased bullock gave origin to the calamity, which soon after spread with such destructive violence over the Venetian and Paduan territories, because no precautionary means were adopted to prevent it\*. A similar event introduced the disease into Grenada from Ostend in Austrian Flanders.

There can be little doubt, that the contagious distemper among the horned cattle, in the South and North of France, of Holland, of Denmark, Sweden, and of Great Britain, was the same disease; the *Pestis Bovilla* of Sauvage, the *Contagiosa Epidemia* of Ramazzini, the *Maladie Epizootique* of d'Azyl, and the disease I have described of the cattle of Grenada. And when we meet with writers disposed to contravert this opinion, we may reconcile the two opinions, by supposing the disease more or less rapid in its course, and thereby more or less completely developing its characteristic symptoms. Much, too, will result from difference of climate, and from local circumstances. The Grenada distemper appeared chiefly during the winter months, and on the windward side of the island, where at that season northwinds prevail, and produce a great degree of relative cold in the atmosphere, and subject the inhabitants to such frequent checks of perspiration, by their piercing and corrugating influence, as often to occasion inflammatory diseases of a most destructive nature; a very remarkable and fatal instance of which, I communicated to the public in the *Medical Commentaries* of Edinburgh, in the year 1786 I believe. With respect to the symptom which seems more especially to distinguish the *Pestis Bovilla*, Dr Layard was the first to point it out, and to avail himself of it in the mode of prevention. This gentleman in his letter to Lord Macclesfield, then President of the Royal Society, says, "An entire conviction of the analogy between this disease and the

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tulæ foras trudi non possunt, et materies deleteria viscera nobiliora, ut cerebrum, pulmones, stomachum infarcit, inflammat, gangræna afficit, unde mors. Nosol. Meth. tom. 2. 655. See also a curious extract from the "Bulletin de la Société Philomatique," in the *New-York Medical Repository*, vol. 1. p. 258. A useful practical inference arises from this in the diseases of cattle; quiet this tumult, by bleeding more especially, and you will reduce the distemper to regularity, and deprive it of much of its danger.

\* How applicable is the observation made by Ramazzini on this occasion, to the commencement of the pestilence in all countries; but more particularly to that which has proved so destructive in the West India Islands, the united states of America, and Spain, during the last fifteen years. "Casus iste totam viciniam perterrificat, sed nulla juvat diligentia ut domus suas, et casas a flatu nimis vicina præservarent." *Ramazzini opera*, 4to. 1718. 456.



the small-pox, would not permit me to omit mentioning the great advantages which must arise from inoculation, and therefore I recommend its use; nor do I find any reason to alter my opinion, after having carefully read over what has been published, and made the strictest inquiry I was able, in several parts of Great Britain" (Philos. Trans. v. 50.)

There is reason to believe, that this fatal distemper is not an endemic of Europe; but in what country it originated I am ignorant. Perhaps, like the plague, no country will acknowledge it for its legitimate offspring. In Grenada it seems pretty certain to have been brought from Ostend, where, and in Picardy, Vicq d'Azyr informs us, it much prevailed in 1779-80. In Italy, Dalmatia was accused of giving birth to it. It is probable France derived it from Italy, Holland and Germany from France, and Sweden and Denmark from Germany. To all these countries it can be traced from the year 1711, when Ramazzini wrote on it. It was first known in Great Britain, nearly about the middle of the last century, when it is said to have been brought from Holland\*.

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\* The description which M. Vicq d'Azyr has given of this disease (Maladie Epizootique) in his "Precis historique," concerning that which prevailed in Picardy and the neighbouring countries in 1779 and 1780, (See Mem. de la Soc. Roy. de Med. tom. 3. 343.) precisely corresponds with Ramazzini in the great and distinguishing features, and even in that very remarkable one, its contagious nature; and yet he assigns its origin to marsh miasmata. His epizootic principally appeared in the low meadows and marshes of Roussan Mainteni, after an inundation, which consequentially greatly augmented the volume and the virulence of the exhalations. "Cette inondation et les vapeurs qui s'en élèvent agissent sur les hommes et sur les bestiaux; sur les premiers qui sont très sujets aux fievres intermittents; sur les seconds, qui sont attaqués de *charbon* dans certains temps de l'année et quelquefois d'autres epizootics très graves." And yet in the next page he says, "par tout les progrès du mal ont été relatifs aux communications, et aux imprudences sans nombre que l'on a commises. Les marais de Roussan, qui est le plus mal sain, a été le foyer de l'Epizootic, et la contagion, qui a eu son principe dans un lieu bas et humide, s'est propagée par communication," &c. I imagine physicians who have been equally conversant with situations subject to the influence of marshy exhalations, and those in which infection is the morbid cause, will feel little inclined to perceive consistency or accuracy of observation in this singular jumble of causation. He differs from Ramazzini, in the morbid changes produced in the bodies of the animals which perished. Thus, the lungs were so much affected, as to induce the writer to call the disease a malignant peripneumony; the stomach and the small intestines were particularly affected with inflammation. He concludes the pathological part of his paper thus: "On peut le regarder comme une fievre putride contagieuse qui exerçoit en meme temps ses ravages sur les visceres du ventre et sur ceux de la poitrine," p. 351. The Murrain of Tubingen, in 1745, seems to have been produced by infected cattle from Dalmatia,



It is highly probable, therefore, that the disease is the same in Europe, and within the tropics. There is one remarkable difference

Dalmatia, or from Hungary. *Dissertat. ad morb. histor. collegit. Alb. V. Haller, tom. 7. p. 841.* Mauchart de lue vaccar. Tubingense. On another occasion, it was introduced from Bavaria. Goëlicke says, the lues contagiosa bovillum of 1780, was imported from Hungary into the north of Germany; *ibid. tom. 6. 727.* The lungs, fauces, and root of the tongue were more particularly inflamed, but the whole of the viscera were more or less so, and the quantity of bile in the gall-bladder was so great, in many instances, that the disease therefrom obtained its name, "die Uebergalle—the liver often full of abscess. *ib. tom. 7. 849, 50.* The same state of the mouth and fauces was observed by Lancisi in the campagna of Rome in 1718; and he says, that this pestilence which so generally prevailed throughout all Italy, was brought from Hungary, ab unico bove, navi ex Hungaria advecto. *sect. 22.* A very curious circumstance is mentioned by Goëlicke, viz. that one bullock being contaminated by the infection, instantly communicated it to those that were healthy; *vel homines ipsi quorum vestimentis miasma pestilentielle inhæret, ex uno loco in alium illud transferunt; sect. 24.* If this is a fact, and I believe it has been frequently verified in this country, how easily might the Grenada infection be transported from Ostend. The same author assures us, that even the saliva of infected cattle adhering to the grass, will infect healthy cattle which feed on it. From these facts he infers, (*sect. 30.*) unde ex orientalibus ad occidentales aliasque mundi plagas haud infrequenter transportari, neminem, nisi rerum omnium olim gestarum memoria destitutum, ignorare posse existimamus. See also Schroeckius on this subject. Dr Wineler describes a murrain of precisely the same nature which prevailed on the borders of Italy, and spread from thence into Switzerland, Poland, and all over Germany, and was very destructive. In this instance, the most singular circumstance is the attributed cause; for the writer says, the contagion seemed to be propagated in the form of a blue mist, that fell upon those pastures where the cattle grazed, insomuch that whole herds have returned home sick. Many died in twenty-four hours, exhibiting no other symptom besides dullness and loathing of food. The remedy employed as a preventive and cure, was a mixture of equal parts of soot, gun-powder, brimstone, and salt, and as much water as was necessary to wash it down. The herdsmen, in this instance, were also infected, and died. *Philos. Transact. Lowthorp's Abridg. v. 2 869.* A very interesting account of a murrain in Essex, Middlesex, and Surrey, is given by Mr T. Bales, in the 5th vol. of this abridgement. The general symptoms were nearly the same, but the chalky concretions, similar to that mentioned by Ramazzini, were very numerous, and sometimes large. No cause is assigned, and it did not extend to mankind. Killing the cattle was the principal means employed to prevent the contagion; and afterwards cleaning, fumigating, and white-washing the stalls. Mr Hoffman, a Danish gentleman, says, this infection was first brought into Denmark by means of raw hides of cattle, dead of this distemper, imported from Flanders; and that at that time, 1745, 50,000 head had perished by it. Mr Theobalds assures us, it was brought into Essex in 1745, from Holland. That the infection, or virus is of a most penetrating nature, seems evident, from the very curious fact related by Mr Collinson, of a farmer, who, from good-naturedly assisting a neighbour in drenching his distempered cattle, conveyed the infection, by means of his clothes, to his own, hitherto healthy. The instant he entered the field in which his own healthy cattle were feeding, the cattle "all



ference however. In the Grenada and Barbadoes disease, the flesh of the cattle which perished, on being made the food of the human race, instantly communicated a most fatal disease to them.

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left off their grazing, ran to the farther end of the field, snorting, and shewing the greatest uneasiness at their master's approach." The very next day, many of them fell sick, and died in a few days. In this remarkable instance it does not appear that the human kind sustained any personal injury from the infection. See Martyn's Abridgement of Philosoph. Transact. v. 11. 922. It is remarkable, that Ramazzini, Goëlicke, Sauvage, d'Azyr, and Dr Layard, are the only writers on this distemper I have met with, who mention the eruption of pustules somewhat similar to the small-pox. The former, Goëlicke, says, in aliquibus pustulas sub cute effloruisse, adeo ut nonnulli crediderent variolis boves esse infectos. Haller's Dissertationes, tom. 5. 722. D'Azyr take no notice of this symptom in his "Precis historique," farther than that "quelques uns ont eu le cou couvert de boutons, et cette terminaison etoit ordinairement heureuse;" but in a letter to Dr Layard, he says, "il me paroît comme a vous que c'est toujours la meme maladie qui a regné depuis 1711, et qu'elle a de grands rapports avec l'eruption varioleuse." Dr Layard's opinion of the nature of this disease, suggested the propriety of inoculation; it is that "it is an eruptive fever of the variolous kind; and, that notwithstanding the exanthemata or pustules may have been frequently overlooked, yet none ever recovered without more or less eruption, or critical abscesses; like unto the small-pox, it is communicated by contact, by the air conveying the effluvia, which also lodge in many substances, and are thereby conveyed to distant places. Unlike other pestilential, putrid, or malignant fevers, it bears all the characteristic symptoms, progress, crisis, and event of the small-pox, and whether received by contagion or inoculation, has the same appearances, stages, and determination, except more favourably by inoculation, and with this distinctive and decisive property, that a beast having had the sickness, naturally, or artificially, never has it a second time." Philosoph. Trans. vol. 70. 536. 545. The action of heat and cold on this disease is very remarkable. Ramazzini says, quantum sævierit pestis Octobris mense, austro et euronoto flatibus, satis valgatum est. The same observation occurred to the Marquis Courtivron, as we are told by Dr Layard, and gave rise to a similar discrepancy in the distemper of 1745 and 1746, and that of 1747 and 1748, in the latter years the excessive cold weather checking the variolous eruption, and hurrying the animals out of life. Philos. Trans. vol. 50. 531. A degree of heat, such as that of the torrid zone, it is probable produces the same effect. Thus, then, we see that all animals, whether human or brute, are subject to the same laws of contagion; but a contagion peculiar to them respectively, and not communicable from one class to the other. How has it happened, that Italy, more especially, has so often suffered by this desolating scourge? We find murrain often the subject of the Roman poets and historians' pen, a proof of its frequent occurrence before the Augustan age. In latter times, we have the authority of eminent physicians, for believing it to have become more general, and at least equally destructive. I confess myself, and indeed it will be readily perceived by the reader, very little, and very imperfectly acquainted with the subject; but the little I have seen of it within the tropics, and the information I have acquired in the course of my reading, are amply sufficient to satisfy me, that an inquiry into the cause of its remarkable prevalence in Italy, Dalmatia, &c. before it became epidemic in more northerly parts of Europe, is by no means unworthy the physiologist,

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Nay, we are assured, that a few bloody sanious drops from the flesh, falling upon the skin of a healthy person, gave rise to a train of symptoms, which baffled medical skill: and that, even the milk drawn from a diseased cow, and received into the stomach, had the same effect as the flesh. Now, we perceive little mention of such effect being produced in Europe. Sauvage, indeed, attributes the *pestis carbunculosa* to this cause, but his authority does not appear very clear. (*Nosol. Meth. tom. i. 417.*) I have reason to believe, that the general conclusion he hence draws, relative to the greater frequency of the carbuncle among butchers, curriers, tallow-chandlers, and herdsmen, is founded more on theory than on fact; and it is at all events evident, even on the supposition that this is a frequent occurrence, that the disease communicated or generated by "*carnes animalium anthrace defunctorum*," is extremely slight in Europe, for Sauvage himself tells us, that physicians are seldom called upon to cure it, (p. 147.) Lancisi observed at Rome, that those men who ate of infected flesh, were affected with diarrhœa and fever. Schroeckius mentions, too, an instance of two countrymen, who had slaughtered a bullock, which, on inspection, being found diseased, was buried, and were affected with carbuncle, from having thus touched the flesh. On the other hand, Goëlicke expressly says, that no injury was sustained by men from the influence of the terrible pestilence he describes of 1730. *Variis hominibus, qui in alendis et curandis ægrotantibus vaccis, lue demortuis, transvehendis, secandis, excoriandis, sepeliendis, occupati fuerunt, et spissas pessime olentium effluviolorum nebulas inspiraverant, omnes ac singuli sani manserunt salvique. Unus e veterinariis cum vaccæ constipatæ alvum intrusa manu aperuisset, effluviis teterrimis afflatus, bis ea vespere in lipothymiam incidit, hausto autem alexeterio perfecte statim convaluit.* (*Haller's Dissertationes, tom. v. 846.*) Many ate of the flesh of the infected cattle, but he says, *hactenus utrinque, quantum constat, sine damno.* (*Ibid.*) And, upon the whole, he considers himself authorized to deduce this proposition from his observations, *viz. Morbus brutorum epidemicus et contagiosus ut plurimum in sua animalis specie manet, nec ad aliam facile transit.* (*Ibid.*) Ramazzini nowhere mentions the carbuncular disease being the consequence of eating the flesh of murrained cattle. It is true, indeed, he does not say, that such flesh was used as food, during the

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whose learning, diligence, and local knowledge of those countries, are competent to direct and guide his research; for it may lead to hints, perhaps to discoveries, highly important to the welfare of mankind,



the epidemic he describes; but we are not to suppose, that the butchers, herdsmen, and lower peasantry of Italy, were in his time more scrupulous than those of France or Germany, in Sauvages or Goëlicke's time. We should expect, too, that a circumstance of this nature, would not be omitted in his account of the Diseases of Tradesmen, a work calculated for popular use, as well as the information of physicians; yet nowhere is a fact of this nature recorded by him, although he treats fully of diseases incident to those very tradesmen. Sauvage says the carbuncular disease is peculiar too. Vicq d'Azyr says nothing of this communication of disease. From the silence of Dr Layard, on this part of the subject, who took a most comprehensive view of it, in all its bearings and relations, the inference seems fair, that the carbuncular disease among men, was not a consequence of the murrains, which have prevailed in different parts of Europe since 1711. Dr Layard's uniform object was to prevent the distemper among cattle. Had the carbuncle been a consequence of that epidemic to mankind, no doubt he would have directed his views to the prevention of that also. It would seem, therefore, that the tropical climate communicates a higher degree of malignity to the poison of murrain, than it possesses in temperate climates: or, that the peasantry of the former are more susceptible of the action of animal poisons, which however recent experience totally disproves; or, that the peasantry of Europe are more scrupulous in their choice of food: a proposition which seems also disproved by Sauvage. *Liberum cuique esto iudicium.* Ramazz. 460\*.

Ramazzini seems to disbelieve that the human kind can be infected by this pestilence, and for reasons which appear indisputable.

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\* Yet an anatomist dissecting a putrid body, and accidentally scratching his finger with the knife, covered with the putrid sanies of such body, will lose his life by the fever (not contagious, however,) thereby caused: and the cook trussing putrid game, and accidentally wounded in the same manner, also becomes a victim to the poison. In the Bristol newspaper (Mirror, Jan. 24, 1807), there are two instances given of the fatal consequence of this species of inoculation. One of them is thus stated: "The death of Mrs Biggs of Edmunton, was occasioned by an accident from which so lamentable a result was not to be apprehended. About a fortnight since, in adjusting a skewer used in trussing a pheasant, she perforated her thumb, and the bird being in a slight degree tainted, an inflammation ensued, which terminated in her death." The second is thus related: "Lately a respectable house-keeper of Bath, in breaking the small bones of a hare for jugging, that was highly tainted, scratched two of her fingers; the inflammation which ensued was prevented from terminating fatally, by the immediate profuse application of leeches."



putable\*. He does not fail, however, with his usual impartiality, to bring before his readers several authorities for an opposite opinion, viz. that this kind of infection is not always confined to the "bovinus populus" as he calls the horned cattle, but indiscriminately attacks all quadrupeds, men, birds, and even fishes †. The fact which Ramazzini himself records, is sufficient to overthrow the testimony of Ovid, Lucretius, Livy, and Dionysius Halicarnasseus, which he refers to, without having recourse to a more obvious objection, the ample allowance which must be made for superstitious credulity and poetic fancy. He adds, that in the pestilence he describes, and of its wide diffusion, and deadly nature, we can have no doubt there was not room for suspecting any such extension of its virus, for that it was confined to the cattle, and most particularly fatal to those which were fattest, and in best condition; an observation supported and confined by Mauchart, Goëlicke, &c. Nor is it a proposition supported by well established facts, that the contagion of plague or pestilence, among men, is communicable to brute animals, no more than that of murrain among cattle to men. There seems indeed to be a well defined line of distinction between them; a happy and beneficent limit, by which providence prevents the extinction of animals, when, in its all-seeing wisdom, it appoints a murrain or a pestilence, to preserve an equal distribution of its bounties to all created beings, or to subdue the arrogance of man, when he presumptuously assigns the ultimate purpose of these bounties to himself. It is, perhaps, when the imprudence or the necessities of man urge him to receive into his system the  
flesh

\* Etenim si trium mensium spatio, lues ista, alia ruminantia et cornigera non attingit, quamvis inter ea magnus sit symbolismus, nec equos, sues ac alias sylvestres feras. hactenus quidquam læsit, non apparet ratio, cur homines, qui ab istis animalibus tam longe distant, debeat afficere.

† Ast illorum temporum pestilentia non solis in bobus sed in omnibus animalibus, at ipsis etiam maris piscibus, non parceret (qualis ea fuit quam Lucretius carmine descripsit) &c. Ramaz. 459. But on examining the passage in Lucretius, to which I suppose he must refer, (lib. vi. v. 1123), I can discover no mention made of fish:

Hæc igitur subito clades nova, pestilitasque,  
Aut in aquas cadit, aut fruges persidit in ipsas.

Abrupt then falls the new pestiferous bane  
Broad o'er the fountains, &c.                      GOOD.

Virgil is indeed more explicit:

Jam maris imensi prolem, et genus omne natantium  
Littore in extremo, ceu naufraga corpora, fluctus  
Proluit; insolitæ fugiunt in flumina phocæ.      GEOR. iii. 541.



flesh of animals destroyed by a pestilential disease, he becomes a victim to the poison thus communicated. But then, he suffers by a new disease, as fatal, when it is produced, as the epidemic which destroyed the cattle, but which cannot be propagated from a diseased individual to a healthy one. It ceases and determines in the individual who ate the morbid flesh. This is precisely similar to the order observed by nature in the propagation of animals. A male and female animal, of very different species, nay, of very different genera, the ass and the cow for instance \*, may copulate and produce a third, partaking of the nature of both; but here propagation ceases, and were it otherwise, the beautiful and admirable arrangement of creation would be disturbed, and all things reduced to their original state of confusion. There is solid ground of belief, that this singular mode of exciting a new and fatal morbid action in living animal bodies is reciprocal, that is, that carnivorous quadrupeds, for instance, during the existence of a pestilential epidemic among men, if driven by voracity or hunger, to feed on the bodies of men destroyed by the pestilence, may be destroyed themselves; not by contagion, but, as in the preceding case, by the action of a peculiar poison, evolved in their stomachs from the morbid flesh. The brute creation, however, here seems to possess a superior advantage over man: instinct, we have reason to believe, protecting the former from such fatal indulgencies. Thucydides insinuates that such was observed among carnivorous birds, and quadrupeds, during the plague which ravaged Athens: *alites et quadrupedes, quotquot humanis cadaveribus vesci solent, cum multa jacerent insepulta, tamen aut ad hæc non accedebant, aut si gustassent, interibant †*. Virgil takes notice of this instinctive aversion, of even beasts of prey, from flocks labouring under his *dira contagio*.

Non lupus insidias explorat ovilia circum

Nec gregibus nocturnus obambulat.

G. 3. 537.

But although he calls to his aid all the powers of his fertile imagination to depict the horror and the extension of the effect, yet he nowhere tells us that the human race became victims to the

\* "To the mule we may join the kumrah, as I think these people call a little servicable beast of burthen, begot betwixt an ass and a cow. That which I saw was single hoofed like the ass, but distinguished from it in all other respects, having a sleeker skin, and the tail and head (excepting the horns,) in the fashion of the dams." *Travels, &c. into Barbary and the Levant, by Dr Shaw. Oxford, 1788, p. 239.*

† *καρὰ ἄρνα ἢ τετραπόδα ἵσα ἀνθρώπων ἀπέται, πολλοὶ ἀταφῶν γειγνημένων ἢ ἔπροσέει, ἢ γεννημένα διεφθίμετο.* lib. 2. 4.



the pestilence\*. Had such an extension of the contagion of murrain been well authenticated and believed in this most judicious poet's time, he no doubt would have availed himself of the facts, and by adopting them completed the climax. Ovid is less scrupulous :

———— agunt contagia late.  
Pervenit ad miseros damno graviore colonas  
Pestis, et in magnæ dominatur mœnibus urbis. Met. 7. 551.

He does not however neglect the remarkable feature I have mentioned.

———— Non illa canes, avidæve volucres,  
Non cani tetigère lupi. Ibid. 549.

It is true, indeed, that the two best Roman historians, both too contemporaries of Virgil, Livy and Dionysius Halicarnasseus, describe a pestilence, which, by their account, seems to have been common to every species of quadruped †, and to men of all descriptions, exposed to the contagion, beginning with the former, then proceeding to the shepherds and husbandmen, and ending with the citizens of Rome. Dionysius says such a disease was never before known—*ὅτι ποικίλοι κἀκαθάρτες, ὡς ἔγωγε προτέρου, λοιμικῆς*. It is highly probable, however, that two distinct diseases existed at two distinct periods of the years in which this pestilence is said to have been epidemic, the one peculiar to the brute animals, the other to mankind. The latter, indeed, seems to be easily accounted for, by the dreadful state of that part of Italy at that time; the whole country laid waste by the continual incursions of the Æqui, Volsci, and other enemies of Rome; the continual encroachments of the Romans themselves; the distracted and excessively crowded state of the city; the uncultivated woody and marshy surface everywhere exhaling malignant miasmata. Livy in his description of the same calamity corresponds precisely:—but he records an important circumstance omitted by Dionysius, quite sufficient for the production of a pestilential fever in the city, without recurring to the epidemic prevailing before among the cattle, for the infection which generated it; and sufficient too to justify Virgil's omission of what he knew to be unfounded in fact—*pecoribus agrestibusque in urbem acceptis—ea colluvio*

\* He says, indeed,

Verum etiam invisos si quis tentârat amictos  
Ardentes papulæ, atque immundus olentia sudor  
Membra sequebatur.

† The words of Dio. Halicarnasseus are *ἵππων τε φορβῶν καὶ βοῶν ἀγέλαις πρὸς πᾶσι—καὶ δειφοσίῃς δειφῶ δειφῶ καὶ τὰ τετραπόδα*. Lib. 9. c. 66. Oxon. 1704.  
This pestilence happened in the year 291-293 of Rome. Ante C. 461.



colluvio mistorum omnis generis animantium, et odore insolito urbanos et agrestem confertum in areta tecta æstu ac vigiliis angebat, ministeriaque invicem ac contagio ipsa vulgabant morbos\*.

I have remarked that, in the ingenious and learned discussion of the question what was the cause of the Sweating Sickness (Edin. Med. Journal, Oct. 1808, p. 469.) it is said, "Ramazzini informs us that persons were affected by eating the flesh of oxen which had the murrain—and there seems to be sufficient proof of diseases among cattle being productive of epidemical disorders among men." On examining the passage referred to in Ramazzini, and there is no other authority quoted for the opinion, I have been astonished to find that the very reverse of this consequence is noted by that writer. Ramazzini states this important point very impartially. He first presents his reader with two authorities for the affirmative of the proposition, viz. that plague succeeds, as a necessary consequence, the murrain of cattle.—These are Livy and Ripamontius †. To these he replies, *hiscæ tamen duobus monumentis totidem habemus, quæ apponamus, nec longe petenda, viz. Fracastorius, and a MS. work on the art of the butcher (libri manuscripti artis laticonum.)* Notwithstanding the wide extent and dreadful nature of these epidemics, the one in the north of Italy in 1514, described by Fracastorius, the other at Venice in 1599, among the horned cattle, no pestilence was the consequence to the human race; "attamen iis annis nihil sinistri, præter rei familiaris damnum hominibus obtigisse, certo scimus." The inference therefore to be drawn is, either that the flesh of diseased bullocks was not eaten, or that the disease possessed not a contagion capable of propagating it to any other animal but the bullock kind. In either case, stated on the authority of Ramazzini, it is evident, I should imagine, the writer of the paper in question laboured under a misconception of that author's meaning ‡.

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\* Lib 3. Ed. Lugdun. tom. i. p. 172. The whole passage is as follows: Grave tempus et forte annus pestilens erat urbi agrisque, nec hominibus magis quam pecori, et auxere vim morbi terrores populationis. pecoribus agrestibusque in urbem acceptis. Ea colluvio mistorum omnis generis animantium, et odore insolito urbanos et agrestem confertum in areta tecta æstu ac vigiliis angebat, ministeriaque invicem ac contagio ipsa vulgabant morbos.

† "Qui in libro de peste quæ anno trigesimo exacti nuper seculi cispadanam et transpadanam regionem pessime mulctavit, *pestilentie hominum pestem bovm subsequutam refert.*" Ramaz. Opera, p. 459.

‡ Let us examine the passage of Livy which contains the instance Ramazzini refers to for the affirmative. Delectus consulibus eo difficilior erat, quod pestilentia, quæ priore anno in boves inquierat, eo verterat in homines. In morbos qui



It may be admitted, however, that there may sometimes exist a peculiar state of the atmosphere—a morbid cause floating in it, common to all animals, and at the same time acting on them—the effect of which on animals of very different descriptions, as man and the ox, may be marked by similar or nearly similar symptoms. This indeed, as I have already observed, seems to have happened at Grenada; for we find *cynanche maligna* epidemic among the human race at the very time\*. Cattle were fatally afflicted with a disease whose symptoms were not dissimilar, except in superior violence, whose course was often equally rapid, whose supervention was equally unexpected, whose termination was equally fatal, and which exhibited morbid changes in the body after death precisely alike. But although the *cynanche maligna* is communicable from man to man, it does not appear that in this case it was so from man to the ox, or from the ox to man. There is a circumstance to be remarked here too curious to be overlooked. The pestilence or murrain among the cattle was first observed in Grenada at the time I have mentioned; and the *cynanche maligna* at the very same time also made its first appearance there—both were new, both disappeared nearly at the same time, and have not since been known. If this curious coincidence be compared with what has been recorded in Europe concerning these diseases, we shall find, I imagine, a concurrence of events nearly similar. In the beginning of the 16th century the *cynanche maligna*, or a disease so exactly akin to it as to leave little doubt of their being the same, is described by the physicians of that time (see Dr Fothergill's account, &c.) as prevailing epidemically, and with most fatal effect in Spain and Italy; now, at this very time, the murrain, we are informed by

Fracastorius,

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qui inciderant, haud facile septimum diem superabant: qui superabant, longinque, maxime quartanæ implicabantur morbo. Servitia maxime moriebantur, eorum strages per omnes vias insepulorum erat. Lib. 41. Leyd. ed. tom. iii. p. 487. Here we find a bare assertion, which even the fact, in a subsequent part of the passage, seems to disprove; and bears no congruous relation to the effect of marsh miasmata, which has ever been the bane of the environs of Rome, clearly described in the expression, maxime quartanæ implicabantur morbo. A new disease had taken place. The destruction of cattle during the year of murrain, by depriving the Romans, in a great measure, of their chief means of cultivating and draining the low swampy country bordering the Tyber, and withholding from them a principal source of aliment, at once augmented the volume, and concentrated the virulence of the exhalations to an extraordinary degree, and rendered the persons of the inhabitants more susceptible of their deadly influence.

\* Sauvage mentions an instance of this under the 3d species of *cynanche*. *Hæc species ante triginta annos epidemica fuit circa nemausum, maxime inter boves; atque etiam aliquot homines infecit.* Tom. i. 489.



Fracastorius, Ramazzini, and others, prevailed with direful mortality in these countries. Again, the cynanche maligna was not so much noticed in England as to become a subject of accurate investigation until the time of Dr Fothergill and Dr Huxham, that is, not till 1748; and there is reason to believe that "the distemper among the horned cattle" was nearly coëval (see note 3d): it is certain that the alarm produced by it was not sufficient to occasion the adoption of decisive measures of prevention until 1747.

Having lengthened this paper much beyond the limits I originally proposed, I shall intrude no longer at present; but as the inquiry involves in it a very curious and important question relative to the influence of the effluvia from dead animal bodies, passing through the natural process of putrefaction in the open air, on living animal bodies, I shall take some future occasion to communicate to you such remarks as have occurred to me on the subject.

*Clifton, 26th July 1809.*

## V.

*Case of a Scirrhus Ovary, in which was found an Adipose Tumor, containing teeth and hairs, in a patient who died in the fifth month of Pregnancy.* By JAMES MILLMAN COLEY, Member of the Royal College of Surgeons in London, and Surgeon in Bridgnorth.

ABOUT five years ago C. W., when in her 23d year, had a suppression of the menses, sense of weight about the pubes, and constant pain on the right side of the abdomen, at which latter part there was an obvious tumefaction. In spite of medical assistance, these symptoms continued to increase, and she became hectic and exceedingly emaciated. But, at the end of two years, there commenced a spontaneous discharge of coagulated blood and other matter, in great quantity from the rectum; and this continuing several weeks, terminated in her perfect recovery.

1809,