A REPORT
OF THE
PRINCIPAL DISEASES
WHICH OCCURRED
AMONG THE GENTLEMEN CADETS
IN THE
ROYAL MILITARY COLLEGE,
AT
GREAT MARLOW, BUCKS,
AND
SANDHURST, BERKSHIRE,
DURING A PERIOD OF SEVEN YEARS,
VIZ.
FROM 3rd OF SEPTEMBER, 1809, TO 2nd OF SEPTEMBER, 1816,
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Read March 17, 1818.

BEFORE commencing a Report of the Diseases of the Gentlemen Cadets of the Royal Military College for the period comprehended in this memoir, it may not be deemed unnecessary to give a short description of the nature and economy of the institution itself, which are not perhaps generally known.

The Royal Military College consists of two departments or branches; viz. a senior and a junior. The former, now stationed at Farnham in Surrey, was instituted for the instruction of a certain number of officers from the army in various parts of military science.

The junior department, or that branch of the College to which this Report solely refers, was founded for the education and discipline of young gentlemen designed for the military profession, who, after residing a certain period in order to attain the necessary qualifications, enter as commissioned officers into the regular army. From the difference of their respective capacities, therefore, as well as other causes, the time of their stay at the institution varies, but does not very usually exceed a term of three years. They are admitted into the College between the age of thirteen and fifteen years; so that from this, as well as the reason just mentioned, their respective ages in the course of their residence differ very considerably, that is to say, to the extent of sometimes more than five years; while their proportionate statures vary still more.

The Cadets are divided into companies, each of which is under the separate care and military direction of a captain. They are in an uniform manner dieted, clothed, and trained to the use of

arms and military exercises according to the usages of the British army. It may therefore be reasonably presumed, that such a regular system of discipline and economy would produce some corresponding influence upon their health, their constitutions, and in some measure upon the character of their diseases; and it is probably in this view alone that the Medical Report of the institution can be considered in any degree interesting, or deserving the attention of the Society.

When the junior department was formed in the year 1802, the town of Great Marlow in Buckinghamshire was chosen for its residence; a place objectionable, not only in regard probably to healthiness of situation, but on account of many local inconveniences. This spot, however, was fixed upon, as would seem, only for a temporary station, until a new College should be built upon ground purchased in the parish of Sandhurst, Berks; yet it was not until the autumn of the year 1812, that this great edifice was prepared for the reception of the members of this department.

The present Medical Report commences in the month of September 1809, at which time the writer first took charge of the medical duties of the institution, and ends in the same month of the year 1816. Consequently, it comprehends the diseases

of the last three years at Marlow, together with those of the first four years at Sandhurst.

Although the Table exhibits only the diseases of the Cadets who were placed under hospital treatment, having no reference to slighter complaints which did not call for confinement, nor to the diseases of the other numerous members of the College, it will nevertheless furnish a pretty accurate, as well as comparative view of the health of the institution, and the salubrity of Marlow and of Sandhurst for those respective periods.

In regard to Cadets with slight complaints requiring surgical treatment, it has been a general rule to admit into hospital only those patients who were prevented from walking, (through lameness or other injury,) or from using a pen or a pencil at their studies, and whose complaints required some degree of restraint in diet or exercise.

The station of Great Marlow, in several respects, appeared unfavourable to health. Surrounded by a well-wooded and beautiful country, with varied scenery, the town is enclosed almost on every side by hills, and lies close to and almost on a level with the river Thames, which, washing it on the south, frequently overflows its banks, and inundates the adjacent fields. The poorer class of inhabitants is seldom entirely free from

the ravage of some epidemic or infectious disorder ; and their own wretched condition, as well as that of their crowded and dirty habitations, is very favourable to the generation and retention of contagion. Hence some of the numerous members and persons connected with the institution, from their frequent and unavoidable intercourse with the townspeople, became more or less liable to imbibe the prevailing contagion in the place, and to communicate it to the individuals of the College ; thus constituting a fruitful and almost never-failing *fomes*, and a medium of infection.

The means of accommodation for the Cadets, as well as many others, at Marlow, were very defective. From the want of sufficient room in the College, other houses were necessarily hired in various and even remote quarters of the town. In addition to these, a temporary wooden building had also been erected previous to 1809, capable of holding one company of Cadets. This dispersed state of the lodging-houses was, no doubt, the means of greatly exposing the young men to the probable risk of contagion, and also to the inclemencies of the weather, in their passage through the streets from and to their dormitories and the halls of instruction in the College.

These circumstances it is thought right to mention, inasmuch as they may be supposed to have

increased the number of causes, and tendency to disease among the Cadets at Marlow.

At the time of the first occupation of the College at Sandhurst in October 1812, the buildings had not been long completed, and some parts were scarcely finished. The grounds were wet and miry, the roads unformed, and the local circumstances altogether very unfavourable to health.

The aspect, scale, and general commodiousness* of the building itself, appear to be very judicious and creditable to the talents of the architect. The front area, however, is narrow, and being confined by a pedestal wall excludes a great portion of light and warmth from the rooms on that side of the basement which are occupied by servants.

The immediate site of the College is moderately elevated and dry. An open and extensive heath almost surrounds it, particularly on the north and east, where it stretches for several miles. On the south-west, the building is in a small degree sheltered by trees. The air is reckoned dry, and in winter the wind, especially when it blows from the north and east quarters, is felt with much force and keenness. In the hot months of summer, the reflexion of

* The dormitories are constructed to hold five Cadets each, and to hold seventy-two square feet to every bed, and thirty-six cubic yards of space or air to each Cadet when the room is fully occupied.

the solar rays from the light sandy soil would sometimes be oppressive, were the effect not counteracted by an almost constant and refreshing breeze.

The remoteness of the College from other buildings gives it the superior advantages of ventilation and an immunity from contagious disorders, comparatively with the first station at Marlow, as will appear by an examination of the Table of the diseases which appeared at both places in the respective periods mentioned, that is to say, for three years at Marlow, and four years at Sandhurst; but it is to be observed, that at the latter place the general average proportion of Cadets was nearly one-twelfth part greater than at Marlow; and the Table includes the diseases of *four* years.

The number of Cadets at the institution has varied at different times, but has never exceeded 360 at one time. Their diet, clothing, and military discipline, as already observed, are strictly uniform; and it is perhaps to the steady operation and effects of this system, and to the unremitting vigilance and attention of the governors, and indeed of every officer of the institution, to the health, comfort, and regular conduct of the students at so critical a period of their lives, that is principally to be ascribed their freedom from more numerous and more dangerous maladies than those which usually occur amongst them.

The early detection of their individual disorders in most cases, and the opportunity so readily presented to the medical attendant, not only of placing the patient under immediate treatment and restrictions in diet, but also of hourly watching the progress of the disease and the effects of the remedies prescribed, are advantages more peculiarly calculated to afford to art a better chance of averting the danger and cutting short the malady. Certain it is, that under ordinary conditions the disorders of the Cadets seldom assume a very dangerous or aggravated character, and owing partly to these favourable circumstances, and probably in part to the youthful vigour of their constitutions, the progress towards the re-establishment of their health is usually rapid.

Independently also of the salutary effects of regular diet and discipline upon the constitutions, and possibly upon the minds of the Cadets, they are permitted to indulge in the usual athletic exercises of youth; and it has often been remarked, that young men of weakly constitutions at the period of their entrance, have become comparatively tall and strong after a residence of only a twelve-month at the College.

There are two vacations in the year of six weeks each, at which times only a small number of the Cadets continue at the institution. In calculating

the proportion of diseases, however, the ratio of sickness is taken only from the mean numbers actually present in each month of the year.

It is also right to state, that the Report does not comprehend the diseases of those young men who fell ill, or may have died, while absent from the College. Such of the sick as were permitted to return home for change of air, or at the request of friends, are pointed out in a separate column of the Table.

Fever.

This may be considered as the most important class of diseases in the catalogue. Under this head are meant to be included all cases in which acceleration of the pulse, increased temperature of the skin, preceded by the usual well-known symptoms, were the predominant phenomena, without the *manifest* presence of primary local affection. It is thought unnecessary to give a detail of the general symptoms, many of them being common to other diseases.

As the greater proportion of febrile cases were of a mild character, and required but a very short period of confinement in the hospital, being seldom more than two days, it has been judged proper to distinguish the more simple and slight affections of this kind under the term *febris mitior*;

while all the other more serious forms of fever, (intermittents and the exanthemata of course excepted,) to avoid minute classification, are comprehended under the general appellation of *febris continua*.

In the more severe cases of fever which occurred, the symptoms very nearly agreed with the usual definitions of synochus of nosological writers. There appeared no rational ground for supposing that fever was, in any instance, derived from the agency of contagion; nor did any case, even the most severe, ever assume the true character of typhus, as usually described—a disease which seems to be now becoming more rare.

In every case of fever, the first step in the treatment was the evacuation of the contents of the stomach and bowels; not according to the usual understanding of this indication, by the milder class of remedies; but by means of powerful medicines, *early* exhibited, and repeated until they produced a complete effect. Tartarized antimony, dissolved in water, was always preferred as an emetic; and sometimes it was given in combination with ipecacuanha. These medicines were administered with the view of causing a sufficient evacuation of the contents of the stomach, and to produce a more direct and emulgent effect on the other viscera. As soon as the stomach was sufficiently composed to retain them, purgatives of the

submuriate of mercury, in combination with jalap, compound extract of colocynth, assisted by super-tartrate of potass, neutral salts, or infusions of senna, were administered, so as to produce, if possible, from five to eight or ten alvine evacuations within the first twelve or fifteen hours after the patient's admission, according to the urgency of the case. To accomplish this object, from six to twenty grains of the submuriate, and from fifteen to sixty of jalap, according to the age, size, and constitution, exhibited in two or more doses, have in many cases been found necessary, with the additional assistance of neutral salts and infusions of senna. The usual dose of calomel was six or eight grains. In most instances, where the vascular action ran very high, the effect of the purgative medicines was anticipated and promoted by the use of large saline enemata, which were also repeated, if necessary: these last, by relieving the great intestines of their contents before the action of the cathartics had commenced, were found materially to accelerate their operation, and to save time, a point of primary consideration in the early stage of fever.

The employment of these evacuant remedies, especially the aperients, is here more particularly described, and their *early* and faithful exhibition insisted upon, because they are considered to be very important in the final success of the case, and because the successful termination of the dis-

ease so much depends upon the timely and vigorous use of the means directed. These means should be put in force, as far as possible, *under the eye of the medical attendant himself*, who can never confidently and safely rely upon the reports of nurses or other uninterested persons in any cases of dangerous tendency.

By a steady use of these measures, an abatement of the heat and vascular excitement was most generally perceptible within twelve hours after admission. When this favourable change was not very remarkable, the cathartics were repeated, the patient being allowed, if necessary, such an interval of repose as was deemed consistent with his safety and the particular state of his sensations at the time. In the administration of these medicines, regard was paid to the evacuant effects produced, to the age and strength of the patient, and not so much to the quantities of the medicines exhibited; and the remission of the febrile symptoms appeared, in most instances, to be in direct proportion to the action of the purgatives. It was also remarked, that repeated active doses of these medicines, so far from inducing debility, too often and too groundlessly dreaded in such cases, have commonly procured to the patient relief from the severity of his sufferings, and an apparent renewal, as it were, of the strength and energies of the system.

When very decided benefit was not found to arise from the full operation of aperient medicines after the lapse of twenty-four or thirty-six hours ; and when febrile action had been *entirely* established, whether through the patient's concealment and loss of time in attacking the disease at the first onset, the inefficacy of the treatment hitherto adopted, or some other cause ; it has been usual to make a very strict re-examination of all the individual symptoms of the case, when not uncommonly some topical inflammation or affection either of the head or in some part of the thoracic or abdominal cavities has been detected, from the presence of head-ach or giddiness, pain in deep inspiration, or on pressure with the hand in the different regions of the trunk. The discovery of this new or overlooked symptom has generally suggested the expediency of using the lancet ; or if that remedy was not deemed necessary, local bleedings, blisters, or other topical applications, according to the nature and urgency of the particular symptom. In all cases attended with unequivocal marks of local complaint, whence organic congestion or lesion might be apprehended, the employment of this remedy was found of essential advantage ; and probably it should often take the precedence of every other remedy in fever of any serious form, especially in hot weather, or in the spring months. The extent of the venæsection was regulated by the effect produced upon the pulse, but particularly upon the relief of the local

symptom, and very seldom by the measured quantity of blood absorbed, which was usually from ten to sixteen ounces at once. Even in forms of fever unaccompanied with well-marked topical affection, which had not yielded to the active medicines previously administered so much as might have been expected, and in which the strength and frequency of the pulse seemed to indicate inflammation to exist *somewhere*, bloodletting has been repeatedly followed by an evident relief of almost all the symptoms. In such cases, when carried far enough to produce a very sensible impression upon the general system, this powerful remedy, by its immediate effect of reducing the volume and momentum of the circulating mass, and thus counteracting local congestion, at the same time that it commonly abates the quickness of the pulse and the cutaneous heat, has seemed to open the way towards a more favourable crisis, and bring about a speedier termination of the disease. Sometimes it was deemed advisable to repeat the venæsection in instances where the local symptoms had returned or had been little affected by the previous bloodletting; more especially if the appearance of the blood did not forbid farther abstraction of that fluid*.

* The practice of blood-letting in fevers, which, when copiously employed at the very beginning of the disease, has been found so successful in the cure of the destructive fever of the West Indies, as well as in other parts of the world, has been zealously recommended and practised by no author more than Dr. Jackson. Drs. Moseley and Rush have also strenuously sup-

When some of the means here described have failed to arrest the progress and prevent the establishment of febrile action, and it has become evident that the disease must now, as it were, run its course; small and frequently repeated doses of the submuriate of mercury, in the quantity of seldom more than two grains, given every four or five hours, in conjunction with the antimonial or James's powder, without opium, have been usually had recourse to; and when found necessary, these were joined or alternated with sufficient quantities of cathartic medicines, so as to keep up daily copious evacuations. In the intervals, and indeed at all times, saline effervescing draughts, and drinks acidulated with the supertartrate of potass, tamarinds, &c. were almost always permitted to be freely taken, as grateful auxiliaries to the medicines, at the will of the patient.

These remedies were continued, at longer or shorter periods of time, every day during the further progress of the fever, or until very decided amendment followed, which usually took place in the course of a very few days.

In regulating the doses and the times of exhi-

ported the same doctrine. Bleeding, however, had been long sanctioned in tropical fevers by Trapham in 1678; by Towne in 1726; and by Hillary about the year 1760; so that, in this instance, tropical practice may be said for some time to have retrograded.

biting the purgative medicines, the degree of febrile action, as well as the appearances of the alvine discharges, afforded a very convenient and useful criterion ; an attention to which point by the medical attendant cannot be very safely omitted in practice.

As an essential thing in the treatment of fever, it may be also right to state, that particular regard was paid to the preservation of a due degree of temperature in the apartments as well as in the beds of the sick at all seasons of the year, either by the admission of cool, or the exclusion of the external air, according to the feelings of the patient, the state of the weather, and by a regulated proportion of fires and bedding.

Such has been the principal mode of treatment commonly adopted in cases of fever, and almost in every instance the relief and apparent success obtained were proportionate to the *early* and *vigorous* employment of the measures above described; and it may be remarked in general that no instance of relapse ever occurred.

It is thought unnecessary to describe the other auxiliary means employed in the treatment of fever, as comparatively unimportant, with the exception of the external use of water. The cold affusion, however, *duly administered*, being a remedy of great consideration in febrile cases in general, it

may be right to take some notice of its effects in continued fever, as it appeared among the Cadets.

In many instances of steadily increased temperature of the skin, the affusion of two or three successive pailsful of cold water, or of water impregnated with salt or vinegar, was carefully performed in the manner described by Currie, but the results were by no means so beneficial or satisfactory as might have been expected, either in cutting short the disease, or in permanently removing any of the symptoms. Whenever this remedy was tried, it always reduced the heat and febrile anxiety, and frequently the strength and quickness of the pulse, for a longer or shorter time ; sometimes also producing a tendency to repose ; but the consequent reaction of the heart and arteries was very generally attended by a return of the symptoms to the same, or nearly the same degree of urgency as before the affusion. The patient, however, was, generally speaking, much refreshed by it ; and although it did not effect any permanent good, it afforded him a respite from feverish heat, and was so grateful to his sensations, that he sometimes earnestly requested it to be repeated.

Sponging the body generally or partially with subtepid or cold water mixed with vinegar, according with the temperature of the skin and the feelings of the patient, was, under similar circumstances, always found to agree with him, and to

abate that restlessness and anxiety which so invariably accompany high degrees of fever.

These agreeable effects, more or less, followed the use of the cold or subtepid affusion and lavation ; but whether from the peculiarity of the diseases, or of the constitutions of this class of patients, in no instance of continued fever was the malady extinguished or obviously cut short by any of these processes ;—results which had been repeatedly witnessed by the writer of this Report in other subjects of fever, placed under different circumstances of age, diet, habit, manner of life, &c. in warm as well as temperate climates, at sea as well as on shore ; and demonstrating that the remedies chiefly to be relied upon in the cure of these fevers of the Cadets, are early and copious evacuations, particularly bloodletting and cathartics, the latter being in every case most indispensable.

Having now described the practice which has been generally pursued at this institution in the treatment of continued fever, it may be proper, with a view to practical utility, to take some retrospective notice of the febrile cases which ended fatally.

The total number admitted was 432. Of 162 admitted with the more severe form of continued fever, two cases died. The first death occurred

at Marlow, during a hot season, in the month of June 1811, on the twenty-eighth day of the disease. Besides the unusually long duration of the malady, this case presented several remarkable features. The patient, who was sixteen years old, never complained of headach ; the skin was obstinately hot and dry throughout the whole course of the disorder, accompanied for some time with a small pearly eruption on the body ; the pulse, at first 108, afterwards ranging to 140 and upwards in the minute; redness and swelling of the tongue; and in the earlier stage, a sense of uneasiness on pressing the hypogastrium, with some degree of tension of the part. This patient had been indisposed two or three days before he reported himself sick, and was of a delicate appearance. The cold affusion was repeatedly tried to the fullest extent, without producing any permanent advantage. It is now almost to be regretted that the lancet was not employed, notwithstanding the circumstances which at the time appeared to forbid the use of this efficient remedy ; and probably the reasons which then seemed to contra-indicate bloodletting were not well founded*. Purgatives were freely

* It is perhaps right to state, that in the treatment of this, as well as of every other case of extreme danger, the writer availed himself of the opinion and advice of the most eminent physicians in the vicinity of the institution, with whose full concurrence and recommendation the treatment has been conducted, in joint responsibility and co-operation with the medical officers of the establishment.

administered, not only at the beginning, but during a long period of the disease; and principally with this view, besides the other purgatives, upwards of fifty grains of the submuriate of mercury were given in all; but the mouth was not affected, probably from its not having been used in greater quantity. It may be here remarked, that the effects of mercury in cases of fever were scarcely ever perceptible on the mouth; indeed it was very seldom or never thought necessary to carry the medicine so far as to be likely to induce ptyalism, without symptoms of amendment having most generally taken place in the patient. The body of this patient was not inspected.

The second fatal case of fever took place at Sandhurst, in the latter end of May 1816, at a time also when the weather was uncommonly hot for the season. The disease was marked by constant but slight headach from the very commencement, in which respect it differed from the case before-mentioned: there was little increase of heat, or in the frequency of the pulse at the first. So insidiously mild were the symptoms for the first ten days, that the patient was considered nowise in danger. The pulse was small, usually about 84, seldom exceeded 90, and at one time, viz. on the ninth day, was only 72; the temperature of the skin during the whole time being very little above the natural standard. In the evening of the eleventh day, delirium very unexpectedly came on,

followed by coma and other symptoms of inflammation in the brain, the pulse in a short time rising to 140 in the minute. The early and *liberal* use of purgatives, perhaps, served greatly to keep down febrile action, and seemed to have suspended the now evidently strong disposition to congestion in the vessels of the head, partly by their effects upon the circulating mass in general, as well as by mechanically facilitating the descent of the blood by the aorta and iliac arteries. The headach, however, still continued, and blood was taken from the temples by means of leeches. The patient expressed himself relieved, but this relief was but temporary. Delirium now for the first time commenced. Great universal irritability and coma successively followed, symptomatic of metastasis to the brain. A larger quantity of blood was now taken from the temples, and blisters were applied both to the head and nucha. The coldest applications were assiduously used to the head, such as ice, æther, vinegar, &c. while powerful cathartics and stimulating enemata were also administered. At this time the patient was in an exceedingly perturbed and comatose state, the pulse so small and rapid as scarcely to be numbered. Death, in short, seemed now inevitable; but on another consultation it was determined, as a last resource, to use the lancet. The right external jugular vein was accordingly opened, and about eight ounces of blood taken away in a full stream. A most alarming degree of syncope immediately followed,

that threatened his instant dissolution. When the system had somewhat rallied from the sudden effect of this depletion, the pulse was found more slow and distinct; the symptoms of general distress had greatly abated; and the respiration was less hurried. The stupor, however, remained unabated. This comparatively quiescent state of the symptoms continued till the last; and it is more than probable that the fatal event, which happened about six hours afterwards, was not retarded by the venæsection, which, if employed more early and copiously, might have been perhaps more useful.

On examination of the head within eleven hours after death, the brain and its meninges exhibited the marks of previous inflammation, the vessels being found distended with blood, and about six ounces of water in the ventricles. The cranium was observed to be of unusual weight and thickness; the grooves on its internal surface, corresponding to the ramifications of the vessels of the dura mater, being very deep and tortuous.

It afterwards appeared from his father's information, that this young man had been long very subject to headaches, the predisposition to which complaints may have been partly influenced by the peculiar structure of the skull, which was remarkably small and heavy for so young a subject, the sutures being almost obliterated.

Intermittent fever.

It might be perhaps expected, from the low and humid site of Marlow, and its proximity to the muddy and flooded banks of the Thames, that intermittents would be frequent in the course of the river, and would have been more common at Marlow than was found to be the case; and it may have been owing perhaps to the College being situated on rather higher ground, at the distance of nearly half a mile from the river, that the institution did not suffer more from ague. Only four cases, however, occurred at Marlow, one of which succeeded to an attack of scarlatina*.

It is scarcely necessary to say any thing of the treatment pursued in this form of fever, except to remark that in one instance, which occurred in March 1811, during the hot stage of the disease, and which was attended with very high vascular excitement, the pulse being 140, the cold affusion was repeatedly tried with advantage, when it reduced the pulse to 110, and not only shortened the paroxysm, but evidently accelerated the cure of the disease.

Sandhurst.—Though, from the nature of the

* The writer is assured by a physician, who has for many years practised on the banks of the Thames, that idiopathic ague is a rare disease by the river side.

soil and face of the country, some spots of Bagshot Heath are marshy and probably insalubrious, yet the infrequency of intermitting fever among the members of the College, furnishes strong evidence of the healthiness of its local situation, at least of the absence of marsh miasma, only one case of this disease having occurred among the Cadets at Sandhurst in the course of four years. It was not the same with the troops who were employed upon the public works in clearing and draining grounds, and in the formation of roads, &c. and who lived in tents or rude huts, situated a few hundred yards in the rear of the College. The dampness of some spots occupied by these soldiers, especially in rainy seasons and in the winter, conspiring with the effects of their exposure to the vicissitudes of heat, cold, and moisture, as well as the imperfect shelter afforded by their tents or huts in bad weather, added to intemperate and irregular habits of living, may sufficiently account for the occurrence of intermittent fever among some men, and for the recurrence of it in others, who had been subject to the complaint while serving with the army in the peninsula of Europe; some of which cases were of long standing, and proved difficult of cure.

Cynanche Parotidæa.

This epidemic made its appearance in the College at Marlow in the end of February 1810, and

did not entirely disappear until the beginning of June. Fifty-six Cadets were affected in this time. In general, the feverishness was slight; but in some cases the fever was very high, and the glandular enlargement extensive: in one instance the tumefaction included the thyroid gland. In five subjects, metastasis took place to one or both testicles, accompanied with great excitement; but no subsequent affection of the head occurred in any case.

In the treatment calomel was freely used, in combination with other purgatives, both at the beginning and during the course of the disease, when the fever was considerable. These aperients, with the assistance of antimonial medicines and of topical bleedings, were the remedies principally employed. All the cases ended favourably.

Scarlatina.

In the beginning of February 1812, immediately upon the return of the members of the College after the Christmas recess, this disease manifested itself among the Cadets at Marlow; and after spreading considerable alarm, did not finally disappear till the month of May following. Notwithstanding the careful separation and seclusion of every infected case from the moment of its discovery until all probable risk of its propagating the infection seemed to have passed away; besides the

utmost attention paid to the purifying and ventilation, and even fumigating the rooms, and all the articles supposed to be infected; no less than thirty-five Cadets were attacked with this fever, of whom none died.

The throat was affected with ulceration or florid inflammation in almost every instance, and sometimes to a very alarming degree. In eighteen cases the fever was very considerable, and the tonsillar enlargement also very great. In one instance, the efflorescence on the skin did not finally disappear for more than a week.

In the treatment of scarlatina, as much as in that of continued fever, the utility of full catharsis, preceded by emetics, was most conspicuous, especially in the beginning. With this view, the submuriate of mercury was very generally employed, in combination with other aperients, in the energetic manner already described in the treatment of continued fever, and with similarly good effects. The rest of the treatment, also, was generally conducted in the same order and manner.

It may be proper to remark, that ptyalism was produced to a very great degree in one case of this disease; an effect which had not been observed to follow the use of mercury in any other febrile patient, although given to a greater extent. In

this instance, it must be acknowledged the consequent debility was truly alarming, and the convalescence was very slow. The total quantity of the submuriate taken was only eighteen grains; and it is right to observe, that this case of scarlatina was certainly one of the most violent and dangerous that occurred during the season*.

The external use of cold water, though employed with very little benefit in the continued fever of the Cadets, was found highly serviceable in scarlatina. The cold affusion, the shower-bath, the *lavatio frigida*, and *lavatio subtepidi*, were severally and freely made use of in this contagion, under the necessary restrictions, with the most *perfect safety*, and with unequivocal advantage in the various conditions of very high or of moderately increased temperature of the skin; and scarcely in any instance did one or other of the above forms of employing the water fail to produce, more or less, abatement of fever, reduction

* The occasional supervention of such an unpleasant and very unwelcome consequence as severe ptyalism and great debility, arising in some very susceptible constitutions even from a moderate use of mercury, or a great and ill-founded dread of its deleterious effects, should never perhaps divert the medical attendant from the exercise of his judgment in the *due* employment of this active and useful medicine in dangerous maladies; although, in the course of his duty, he may have to contend sometimes against professional as well as vulgar prejudices, in the use of this as well as of other energetic remedies. The exciting of salivation, however, seems in any case an unnecessary object in the cure.

of the pulse, and a disposition towards moisture upon the skin, and to induce repose.

Blisters, sinapisms, or the *linimentum ammoniæ*, were commonly applied to the throat, according to the existing circumstances of impeded deglutition, &c. and to the degree of counter-irritation which appeared to be required in that part; and the effects of these remedies, particularly of blisters, seemed to be highly serviceable in removing local tension and pain, and in assisting respiration and deglutition. With the same view, the use of large hot cataplasms, applied to the external fauces, sometimes over the blistered part, and often renewed, was found beneficial.

In some few instances, the tumefaction of the tonsils continued obstinate, under the use of powerful gargles, for a considerable time, producing more or less impediment in deglutition and articulation. For the relief of some of these affections, scarification of those glands was tried with good effect; in others, the size of the tumors resisted every means that were adopted for their reduction.

In one case, a violent attack of acute rheumatism succeeded to scarlatina, and was afterwards followed by anasarca of the legs and ancles;—a symptom which was not observed to ensue in any other instance. Was the general absence of anasarca after scarlatina, among the Cadets, to be

ascribed to the free employment of the cold affusion and shower-bath during the eruptive fever, to the liberal use of purgatives, or to both? The appearance of the ulcers in the throat of one patient was thought to warrant the exhibition of cinchona and wine; but none of the symptoms could be called malignant.

Variola.

Only one case of small-pox appeared in the College during the whole period of seven years; and this occurred in the month of August 1815, at Sandhurst. The patient had been vaccinated in India*, when an infant, and bore the inoculation mark in one arm. This very probably modified the present attack of variola. The eruptive fever was considerable; the pustules distinct, but began to crust on the sixth day from their first appearance. The progress of the disease was unaccompanied with danger.

It is to be observed, that previously to their reception into the institution, the Cadets may be considered as having almost always passed either through this disease, or the regular process of vaccination.

* After several failures, vaccination was happily established and propagated in India through the philanthropic exertions of the Medical Board at Bombay, in June 1802.

Epilepsia.

Seven cases of this disease became subjects of medical attention, most of which were not of a serious character, and required little other treatment than evacuations. The epileptic attacks appeared to be generally imputable to some temporary or accidental causes, probably to irregularities, and the patients stood in no need of long confinement.

The cold affusion was used with benefit in one case. This sufferer, who had had several fits in the course of the preceding twelve hours, was in the chilly evening of the 6th of November 1814, during a severe paroxysm, taken out of bed, and held upright in a vessel, while several successive pailsful of cold water were poured upon the head. The predisposition to the disease in this instance appeared to originate in the effect of some former injury done to the head (which was of an unusual form,) by the wheel of a carriage passing over it. On the 5th of November, the day before this attack, the patient had been scorched with gunpowder, while at play, in different parts of the body, and became epileptic while confined in the hospital with this accident, probably in consequence of the pain and irritation produced by those wounds. The effect of this remedy was a gradual and decided diminution of the convulsions, and a com-

parative return of sensibility after each affusion of water; but the spasmodic affections, which had been sometimes so violent as to resemble some degree of emprosthotonos, continued more or less during the night, though only in the form of twitchings, attended with some delirium. He complained of great pain and a sensation of "stabbing in his chest." Eighteen ounces of blood were taken away from the arm the next morning, which produced a little syncope. A brisk cathartic, with eight grains of calomel, was next exhibited. The convulsive motions and unconsciousness, which had never entirely left him, now began to give way, so that in the course of a few hours he became quite sensible, and thenceforward continued to recover from the attack without suffering a relapse while he continued in the hospital*.

The utility of the cold affusion in the epileptic paroxysm was probably in this instance sufficiently apparent; but as the disease here seemed to be strongly influenced by the presence of plethora and of local determination to the chest, the use of the lancet and of other counteracting means seemed to become absolutely necessary to the pro-

* This Cadet, on his way back to College after the summer vacation of 1815, was again attacked with the disease at an inn in Blackwater on the 2d of August, in consequence, as it seemed, of drinking spirits; and was again relieved from the paroxysm by the cold affusion alone, administered as before, and he had no return of the disorder while he staid at the College.

duction of more permanent and essential benefit to the patient,

Convulsio.

Under this head it is intended to designate a case of disease arising from some affection of the brain, of an anomalous character from the commencement, of which the most important and dangerous feature appeared to be convulsion, proceeding from no evident cause, and terminating fatally, after a period of two months*.

The patient, anxiously expecting to return home at the beginning vacation in the middle of December 1813, was accidentally discovered to labour under impaired vision, which, together with some degree of strabismus, slight dilatation of the pupils, occasionally double vision, headach, and inability to see by candle-light, seemed to have been coming on some time before ; but his health, in other respects, not hindering him from the pursuit of his studies, he had not reported himself for these symptoms until the expected moment of his departure had almost arrived, when he had erroneously supposed, and cherished the disappointed hope, that he was to spend the recess with his

* The particulars of this case are selected and abridged from an accurate and circumstantial journal of the disease kept at the hospital ; the writer himself having been at the time confined by long and serious illness.

friends, who intended it otherwise. He was sixteen years old, and tall for his age, being nearly six feet high.

On his admission into hospital on the 16th of December, the symptoms were nearly the same as above described, except that, although he had some slight pain in his eyes, he had then no actual headach. The pulse was natural. The bowels, it afterwards appeared from his own confession, had long been habitually constipated, which circumstance, however, he did not make known at this time. These were now repeatedly acted upon by submuriate of mercury and rhubarb, and blisters were applied behind the ears. The pain in his eyes, and occasional headachs were apparently relieved by the effects of these remedies. On the 28th of December, a blister was applied to the nucha, while he continued the use of the submuriate, generally in the dose of two grains, twice a day, sometimes combined with a like portion of antimonial powder, until the 31st of December 1813.

On the 25th and 26th of December, severally, epistaxis took place, which caused him, he said, "to see stronger," and the strabismus was less; but the last hæmorrhage appeared to weaken him much. No mercurial affection of the mouth was perceived on the 31st of December, nor any material alteration in the above symptoms.

At eleven o'clock in the evening of the 31st, he complained of headach, and very soon after was suddenly affected with distortion of the countenance, frothing at the mouth, stertorous breathing, and the usual comatose symptoms, which shortly ended in violent convulsions, attended with a rapid pulse. About eight or ten ounces of blood were immediately taken from the temporal artery, and some ammonia given to him by the mouth, soon after which he became somewhat sensible; the eyes remaining distorted, the pupils much dilated, and vision nearly gone. During the following two hours, he had one or two slighter attacks, the convulsions affecting only the head. The respiration and pulse had become calm, the latter, however, being hard. Since the attack, he had once vomited a yellowish fluid, and during the day, had had one scanty alvine motion. In the succeeding six hours he had many slight returns of convulsion of the face and foaming at the mouth, sometimes appearing to sleep, at other times being restless and seemingly in distress; and on being questioned, complaining of headach, but of no pain elsewhere. The following medicines were prescribed, and exhibited very regularly.

℞ Hydrargyri Submuriatis gr. ij,

Pulv. Jalapæ Compositi gr. xv, M., fiat Pulvis,
quarta quæque hora sumendus.

℞ Liquoris Antimon. Tartarizat. ℥ij,

Misturæ Camphoratæ ℥vss, fiat Mistura, cujus
sumat Cochlearia duo cum singulo pulvere.

The patient's head was also shaved, and cold applications assiduously made to it; a strong enema was injected; a blister was again applied to the nuchæ, and a sinapism to the feet. A solution of supertartrate of potash was ordered for drink.

During the ensuing twenty-four hours he frequently complained of his head, but had no convulsion; the pulse was rapid; pupils dilated, but contracting on the approach of light; the bowels were twice relieved.

The following night, exactly twenty-four hours from the last attack, he had another severe paroxysm of convulsions of the whole body; after which he experienced several slighter fits as before, affecting only the head, with great restlessness, the patient frequently throwing his hands about, and putting them to his head, moaning, and answering no questions; and during the fits, attempting to bite and pinch those about him, and speaking with great anger when moved; the pulse rapid and irregular.

January 2d. In addition to his medicines, which, as well as food, he swallows very readily, he took three grains of submuriate and half a drachm of compound powder of jalap. Three leeches were applied to the temples, and he was put into the warm bath, which last was followed by fainting in

about six minutes ; the respiration was slow, but not stertorous ; pulse 110, and small ; passes his excretions in bed ; appears partially sensible.

January 5th. His mother has arrived and visited him, but he takes no notice of her ; he however answers questions rationally, and can see objects. His bowels have been moved several times daily ; has not had a fit since last report ; the *pediluvium* is ordered at bedtime ; the powders and mixture are now directed to be given every six hours. This afternoon the temporal artery burst out and bled three or four ounces, and the bleeding was suppressed. He after that appeared more confused ; answered not ; and the pulse was weaker, but became stronger in the evening, beating 94 in the minute. The powders were continued, with the addition of a cathartic this night.

January 8th. In the afternoon of the 6th the temporal artery again bled about an ounce, and immediately he became convulsed ; the hæmorrhage in this case, probably, being only the effect of increased vascular action. The pulse was irregular as to strength and frequency, being generally from 90 to 100, and he appeared to be quite blind. Sometimes he has been rational, and conversing with his mother in French when any other person was in the room : at other times, his behaviour has been more like that of a maniac. The bowels having been rather torpid, ten grains of scammony

with two of camboge were added to each powder, and taken every six hours ; besides an occasional saline aperient and a turpentine enema. The pulse being hard, twelve ounces of blood were taken to-day from the arm, which he bore well and derived relief from ; the eye has been observed to be more or less red ; another blister has been applied to the nucha.

January 11th. He is upon the whole better, and much more collected ; the eye is less suffused ; the breath has been for some days very foetid, and both tonsils appear ulcerated, (probably from the effects of mercury,) but there is no salivation. His bowels have been freely acted upon. He says his head is a little confused, and that "liquid fire seems to be running over his eyes." Pulse from 100 to 108 ; skin cool ; tongue not much furred ; complains much of hunger, and is exceedingly ravenous ; countenance collapsed, and flesh emaciated. The following medicines were prescribed :

R Hydrarg. Submuriatis,
 Pulveris Antimonialis,
 Cambogiæ āā gr. iij,
 Digital. fol. Pulv. gr. j, M. fiat pulvis horā
 somni sumendus.

Eight leeches were applied to the temples, and one drachm of *Ung. Hydrargyri* directed to be rubbed in twice a day. Six drachms of cream of tartar were also ordered every morning.

January 16th. In addition to the above remedies, ten grains of *Pil. Hydrarg.* were given at bedtime since the 12th. For some days past he has slept a great deal; the strabismus is lessened; his vision is still indistinct, but rather improved; the ulceration of the throat is increased. Yesterday the temporal artery again burst out and bled eight ounces, and was now cut across: no delirium followed, nor was the pulse sensibly affected by it. The following medicines were given twice a day in room of all others: viz.

R Scammon.

Jalapæ, āā gr. x,

Hydrarg. Submuriatis, gr. j,

Cambogiæ, gr. iij,

Potassæ Supertart. ʒj M. fiat pulvis.

January 22d. The bowels have been freely acted upon; he eats much nutriment; the throat has sloughed, and there has been some hæmorrhage from it at different times, the blood coming away chiefly in the form of coagula. He is now greatly debilitated and wasted; pulse 116, still full, and not easily compressible; tongue clean, except at the base; the wound after venæsection has suppurated, and the least scratch on any part of his body festers; the vesicated nucha having healed up, the blister was renewed to-day; the aperient powder last prescribed has been omitted.

January 30th. Since last report he has taken

some decoction of cinchona, with sulphuric acid and a very small portion of wine now and then, but never more than one ounce of the last in the day. The appearance of his throat has improved. It is scarcely necessary to state that powerful gargles were also assiduously employed. He says, "his appetite and health are as good as ever they were in his life, only that he is weak." He can now read large print. He owns, for the first time, that before his illness he had been constantly obstructed in the bowels. The wounds in his arm and temples, &c. have healed: pulse 110, and full.

February 6th. He has sat up repeatedly, and risen sometimes without assistance; the sight of the right eye is better than that of the left; his bowels have required various cathartics; he has been taking *Tinct. Digitalis* from fifteen to twenty-five drops every four or five hours since the 2d of February; pulse 90, softer; drowsiness; the digitalis to be continued.

February 10th. His sight is still very imperfect. On the 8th a seton was inserted in the left temple, and to-day another in the right. The first seton caused some loss of blood, and faintness followed. Pulse 90: the digitalis to be continued.

February 13th. Strength increasing; sight much the same; appetite insatiable; bowels torpid; pulse

90; setons beginning to discharge; no unfavourable symptom now discernible. He has been walking about his room, and sometimes groping out in the passage, guiding himself, and leaning with his hands on the bannisters for a week past, without help; and he is now expecting his mother to return, according to promise, and take him home. The digitalis is continued, with the supertartrate of potash.

February 14th. Was nauseated and restless last night; face rather swoln; scrotum œdematous; pulse 90, small; skin cool, and is scaly all over; no motion; tongue moist, and furred at the base: the digitalis is omitted, and a cathartic given.

About two o'clock this afternoon the muscles of the face were observed to be twitched, particularly about the eyes. He is perfectly rational, and sees as well as he did yesterday, but the eye-balls are occasionally drawn to the left; pupils not much dilated; face flushed and swoln, especially the left side of it; pulse 88, hard, full, and intermitting. Ten ounces of sily blood were taken away, which he bore well, and the pulse became softer. Having had only one motion, a strong enema was thrown up, containing aloes and mustard; and a dose of calomel and jalap given to him.

At four o'clock the twitchings were less; the enema had acted once; pulse full and irregular;

eyes glassy and prominent; he answers rationally; blood last drawn is cupped and firm; carotids beating violently. A blister is ordered to be applied to the head, and the purgative to be continued.

A little past seven, while in the act of taking his medicine, he was seized with violent universal convulsions, particularly of the face. Five or six ounces of blood were taken away, sinapisms applied to the feet, and the enema was repeated. All efforts, however, proved ineffectual; for at a quarter before eight the same evening, this long and very anxious case unfortunately terminated in death.

Dissection.

“On opening the head, the dura mater presented its natural appearance. The falx being turned back, the vessels, ramified on the surface of the brain, were seen extremely numerous, and very turgid with blood. On the anterior surface of the left hemisphere was an effusion of blood about the size of a shilling. On cutting into the brain, every part where vessels were seen ramified appeared preternaturally vascular. The ventricles contained about three or four drachms of fluid. The whole brain, particularly the tuber annulare, was very firm. Several small points, apparently purulent, were extremely numerous along the su-

perior part of each hemisphere, in the situation of the glandulæ pacchioni."

Chorea Sancti Viti.

One case of this disease was admitted on the 25th of December 1814, with irregular involuntary motions of the left upper extremity, a slight affection of the leg of that side, with a dragging of the right leg, and twitchings of the left corner of the mouth: the pulse was quick, but sometimes only 60 in the minute. He had also occasional hemiplegia on the left side.

Purgatives were tried with some but not very decided relief; they appeared to answer better when combined with tonic medicines, cordials, nutriment, and exercise in the open air. The patient, who was of a lax fibre, became gloomy and depressed while in hospital during the vacation, and gained but little ground. He was therefore suffered to attend his studies, and, together with exercise in the open air, he took the argentum nitratum in doses of only half a grain twice a day; under the use of which medicine his complaints entirely disappeared in the course of a few weeks. This was the only case of the disease that occurred.

A TABULAR VIEW

Of the Diseases of the Gentlemen Cadets admitted into Hospital at the Royal Military College, during a period of Eight Years, viz. from the 3rd of September 1809, to the 2d of September 1817.

DISEASES, &c.	AT MARLOW.		AT SANDHURST.		TOT. IN 8 YRS.			
	3 Years, viz. from 3d Sept. 1809, to 2d Sept. 1812.	Proportion of Sick to the Whole.	4 Years, viz. from 3d Sept. 1812, to 2d Sept. 1816.	Proportion of Sick to the Whole.	Admitted.	Discharged.	Removed.	Died.
Febris Intermittens...	4	1 in 150	1	1 in 925	5	5		
Continua.....	43	14	119	7 $\frac{1}{2}$	195	191	2	2*
Mitior	101	5	169	5 $\frac{1}{2}$	313	313		
Pneumonia.....	66	9	61	15	154	146	8	
Cynanche Tonsillaris	186	3 $\frac{1}{8}$	188	5	393	393		
Trachealis	1	598			1	1		
Parotidæa	56	10 $\frac{1}{4}$	14	66	70	70		
Ophthalmia.....	47	12 $\frac{1}{4}$	43	21 $\frac{1}{2}$	100	98	2	
Enteritis.....			1	925	1	1		
Hepatitis.....	1	598			1	1		
Nephritis.....	2	299			2	2		
Rheumatismus	67	9	30	31	101	99	2	
Odontalgia.....	13	46	14	66	28	28		
Otalgia.....	27	22	31	30	59	59		
Podagra.....	3	199	2	462	6	6		
Scarlatina.....	35	17			35	35		
Rubeola.....	13	46	2	462	15	15		
Variola.....			1	925	1	1		
Erysipelas.....	1	598			1	1		
Epistaxis.....	3	199	5	185	11	11		
Catarrhus.....	108	5 $\frac{1}{2}$	130	7	311	310	1	
Hæmoptysis.....			1	925	1	1	1	/
Hæmaturia.....			1	925	1	1		
Phthisis Incipiens....	4	150	1	925	5	2	3	
Syncope.....	5	120	10	92 $\frac{1}{2}$	15	15		
Convulsio.....	1	598	2	462	3	2		1†
Chorea.....			1	925	1	1		
Epilepsia.....	4	150	5	185	9	9		
Palpitatio.....	1	598			1		1	
Dyspnoea.....	7	85			7	7		
Pertussis.....	2	299			2	2		
Colica.....	3	199	23	40	34	33	1	

* One case died at Marlow, 5th of June 1811: the other at Sandhurst, 31st of May 1816.

† This case died at Sandhurst, 14th of February 1814.

DISEASES, &c.	AT MARLOW.		AT SANDHURST.		TOT. IN 8 YRS.			
	3 Years, viz. from 3d Sept. 1809, to 2d Sept. 1812.	Proportion of Sick to the Whole.	4 Years, viz. from 3d Sept. 1812, to 2d Sept. 1816.	Proportion of Sick to the Whole.	Admitted.	Discharged.	Removed.	Died.
Cholera	1	1 in 598	1	1 in 925	2	2		
Diarrhœa.....	153	4	187	5	383	383		
Mania	2	299			2		2	
Vertigo.....			5	185	5	5		
Cephalalgia.....	98	6	230	4	391	391		
Nausea	20	30	80	11½	120	120		
Enterodynia.....	1	598	28	33	37	37		
Dyseœœa	2	299	5	185	7	7		
Torticollis	1	598	4	231	6	6		
Obstipatio	4	150	63	14½	77	75	2	
Dysuria	3	199	6	154	10	10		
Vermes	4	150	11	84	17	17		
Atrophia	8	75	3	308	11	9	2	
Anasarca.....	1	598			1	1		
Scrofula	13	46	4	231	18	18		
Icterus.....			2	462	2	2		
Nephralgia.....			1	925	1	1		
Cystalgia.....			2	462	2	2		
Pleurodyne.....	29	21	12	77	42	42		
Bubonœœe.....	1	598			1	1		
Luxatio	2	299	1	925	3	3		
Contusio	89	7	124	7½	251	251		
Concussio Cerebri....	2	299	2	462	5	5		
Submersio			1	925	1	1		
Opacitas Corneæ.....			1	925	1	1		
Intumescencia Testis..			4	231	4	3	1	
Fractura	1	598	1	925	2	2		
Vulnus	105	5½	55	16½	169	169		
Ulcus	30	20	14	66½	45	45		
Pernio.....			6	154	6	6		
Eruptiones Cutaneæ*	23	26	32	29	65	64	1	
Fistula in Ano	1	598			1	1		
Condyloma			1	925	1	1		
Furunculus.....	86	7	37	25	127	127		
Combustura			8	116	8	8		
Paraphymosis.....					1	1		
Total.....	1484		1786		3707	3676	29	3

* The cases of Cutaneous Eruption occurring previous to September 1816, amounting to fifty-five, may be reduced to the following orders:

Papulae.....	6	Eczema.....	2
Prurigo.....	8	Ecthyma.....	5
Urticaria.....	3	Scabies.....	5
Lichen.....	13		
Impetigo.....	6		55
Herpes.....	7		