ORIGINAL COMMUNICATIONS.

ON CERTAIN FORMS OF CACHEXIA.

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In my last paper on diabetes, I noticed the general condition of the system which is induced by the continuance of the disease—a state which, for the want of a better name, I designated as a cachexia. I will now endeavour to explain the general views which I have been induced to entertain in relation to this comprehensive subject. My remarks will be very much of a suggestive character, and consequently widely different from those communications which are enriched either with a laborious accumulation of statistics, or with the minute details of newly discovered facts—communications which, in furnishing valuable accessions to our stores of accurate scientific knowledge, form a striking contrast to the theoretical productions of former periods, when medical authors acquired a widely extended reputation for such ingenious but unproved hypothetical doctrines as those of *error loci*, spasms of extreme vessels, etc.

I trust that no one will suspect me of undervaluing the details of morbid anatomy, whether they be such as may be displayed by the scalpel, and made evident to our unassisted senses, or those facts of a more minute character, which are only cognisable by the aid of high magnifying powers, or of chemical tests. To each of these branches of inquiry, I many years since endeavoured to contribute my small share of encouragement and assistance.

As the result of such researches, we may be said to have a chemistry, a mineralogy, a botany, and a zoology, of the human body; and the very discoveries which have been made in each department inevitably provoke some degree of speculation in their application both to pathology and to therapeutics. Such speculation is by no means useless, if it be regarded, as it ought to be, *simply as an indication of the direction* in which further inquiry and investigation are to be made, and not hastily adopted as an acknowledged principle.

Broussais made an important step when he showed the connexion between the derangement, that is to say, the inflammation, acute or chronic, of different organs, and certain symptoms of disease. The idea was not a new one; but he pushed it further than his predecessors had done, and he made it the foundation of one of the numerous perishable systems with which our science has been encumbered. He however really did good service by the stimulus which he gave to the investigation of truth. But, though he seemed to consider that a knowledge of the irritation or inflammation of every part of the body, and of its peculiar and corresponding sympathies, would comprise a perfect nosological system, still he was compelled to admit one exception in the case of purpura or scorbutus. Purpura, however, as we well know, is by no means the only disease in which the whole system is affected. On the contrary, it is one of a numerous group, which, if we were to collect them into a class, would not precisely coincide with the *cachexiæ* of Dr. Cullen. I have adduced the peculiar condition of the system brought about by the persistence of diabetes as one example of these cachexiæ. A French pathologist, who has particularly investigated this disease, has made an accurate examination, which is well worthy of notice. Notwithstanding the manifest presence of sugar in the urine, and the sweet odour of the breath, no tests, however carefully employed, detected the presence of sugar in the tissues of the body. In fact, the saccharine character seemed to disappear with the extinction of life. I shall presently recur to the importance which I attach to this fact; but, in connexion with it, I would notice another fact of similar character. I have repeatedly observed in patients very seriously ill, within a few hours of death, but only in one instance in which death did not follow, a remarkably sweet odour of the breath. It most closely re-

sembled that which rises from malt when recently mixed with hot water in the mash-tub; but, after a time, it has approached to the smell of caramel or burnt sugar. In the case of a little boy, this smell of malt was so strong, and continued for so many hours, that I quite expected to discover some saccharine matter in the urine; but I did not succeed: yet I suspect that more delicate means than I employed might have obtained a different result. In the decomposition of the bodies of these patients, as in those who die of diabetes, there was nothing to distinguish it from that of other bodies in which there had been no trace of this vegetable characteristic before death. On the contrary, one of these subjects had long been labouring under Bright's disease of the kidney. I was, therefore, quite unprepared, and much surprised, when I perceived the malty smell before death. On making the *post mortem* examination, but a few hours afterwards, I noticed the peculiar and very permanent odour which characterises the decomposition of those subjects who have died labouring under the cachexia dependent on Bright's disease; whence I infer that it is possible to have two general and morbid conditions existing at the same time; the one gradually produced, and permanently affecting the molecular condition of the whole body; the other, though of a general, yet of a more superficial and transient character, and more connected with the circulating fluids than with the solids of the body. Hence it is not surprising that its evidence should be found in the urine or halitus; the one being in some sort the concentrated washing, and the other the distillation from the body. Whilst, on the one hand, we may be justified in attaching increased value to indications furnished by the urine in disease, and be encouraged to pursue the investigation of the most minute distinctions discoverable only by the microscope and delicate chemical tests, it becomes at the same time equally evident that the chemical characters so discovered will not necessarily lead to the discovery of the most appropriate and requisite therapeutical agents. It seems to me to explain why the dietetic restrictions and medical articles hitherto prescribed in diabetes have signally failed, notwithstanding any temporary improvement which they may have appeared to procure in the urine of the patient.

The considerations suggested by the contemplation of sections of many specimens of urinary calculi appear to me to be of an analogous character. We find lithic acid, oxalate of lime, and the phosphates, occurring in succession, and repeatedly disappearing and recurring; clearly showing that the urine of the patient, during the months or years in which these calculi have been in formation, was subject to at least as many variations. Without some considerable derangement of the system, it is probable that the urine would not have deposited calculous matter of any description; but this tendency being produced, the causes, accidentally or medically applied to alter the character of the urine, though sufficient to produce a total change, modified but did not remove the morbid condition. Alkalis may stop for a time the deposit of lithic acid; the acid may be neutralised; but the morbid tendency is chased into another form, until circumstances favour its return to the previous manifestation. Had the same agents, whether those which produced or those which corrected, been administered to the healthy system, it is probable not merely that no particle of sabellous matter would have been left in the bladder, but that even microscopic crystals might not have been perceptible in the voided urine.

I may here notice one marked proof of the rapidity with which the character of the urine may be entirely altered, which may be observed during life. A patient labouring under calculus, and strongly affected with what may be called the lithic acid diathesis, and suffering intensely from the consequent irritation of the bladder, has been known to experience relief from the first draught of Vichy water.

It has, I believe, long been observed—but I believe it is to Dr. Bence Jones that we are indebted for having recently and in an especial manner called attention to the fact—that the tendency to diabetes sometimes presents

itself as a feature of senile decay. I have noticed this occurrence sufficiently often to concur with him in this opinion; but I believe that it is only one amongst several instances in which the progressive and natural results of senile decay bear a resemblance to morbid states prematurely produced by various diseases, some of which come into the class of general affections which we are now considering. None of these resemblances has struck me more forcibly than the following, which must doubtless have presented itself to your observation; and it may appear to be so trivial as scarcely to deserve being mentioned. I allude to an invincible aversion to the taking of food. It is something widely different from mere want of appetite, and is by no means necessarily attended with nausea, sickness, or any other simply or decidedly gastric affection. Food of all kinds is alike refused; persuasion is of no avail; and anything taken or placed in the mouth is not swallowed, but is either held in the mouth, or rejected from it. I have seen this in persons far advanced in life, in whom no one organ appeared to be principally diseased, and in whom death seemed to be simple decay; but I was never so forcibly struck with it as in a lady who died on her ninety-sixth birthday, who had preserved her mental faculties, and whose body might be said to be without disease. The symptom to which I have alluded seemed to be the result of the total absence of that condition in which food is craved, in obedience to the wants of the system, ready to receive and appropriate alimentary materials—a state respecting the precise nature of which I believe that physiologists have long disputed, without arriving at any satisfactory conclusion. Though classed under the head of non-naturals, its reality can scarcely be called in question; and I cannot help agreeing with those who ascribe it to a general condition of the system, rather than to the stomach itself, to which its strongest manifestation is referred, although it is altogether different to the cravings of a morbid stomach.

The instances of this complete anorexia occurring in persons of middle age or youth were in some instances so remarkable, that I trust they will be thought admissible here on the ground of their own individual interest, as well as to illustrate the particular point which leads to my adducing them.

CASE I. J. L., between forty and fifty years of age, was of very temperate and active habits, but of an anxious disposition, and apparently somewhat oppressed by business and family cares. He was of rather spare habit of body, and a sallowish, pale complexion. He was subject to dyspepsia, for which he sometimes incidentally consulted me, in consequence of which I learnt that his appetite was poor, and that he took by preference articles of little nutritious quality, such as fruit pies.

His dyspeptic symptoms increased; his strength became greatly prostrated; he showed slight symptoms of purpura; and, on examination, there was found fulness in the region of the liver, the secretion of bile being nearly or at times quite suppressed. Small alterative doses of mercurials were given, in conjunction with vegetable and other tonics. The tendency to purpura was subdued, and the hepatic fulness was reduced; but no improvement in other respects was obtained. The mercurial alteratives could not be continued, as soreness of the mouth was soon produced, and was remarkably obstinate and painful, but attended with very little pyalism. It seemed strongly to exhibit the absence of restorative power which characterised this cachectic subject. Medicines invariably disappointing in their results, the patient with some difficulty managed to travel into the country for the sake of change. Whilst there I paid him occasional visits, and observed his progressive decline. The tongue was clean and moist, but pale, from the general anæmic state. The loss of flesh was not commensurate with the abstinence from food, the repugnance to which formed the most striking feature of the case. He was most obedient to instructions, and was most carefully attended to; but it made no difference what were the articles which he attempted to take. "My dear doctor," he said, "I would do

anything in my power to oblige you; but I cannot take food." This was from no muscular inability to swallow, but mere invincible repugnance. After lingering for some time, the worst prognosis was confirmed by the patient's death. No inspection of the body was made. Though from this cause I am unable to report the state of the viscera, I feel strongly persuaded that there was no organic affection of the stomach; but, from the appearance of the secretions, the anæmia, and characteristic sallowness, with gale eye, I inferred that the chief derangement was in the functions of the liver.

CASE II. J. P., aged between 40 and 50, engaged in business, residing out of town, of a cheerful disposition, and of active healthful habits, had generally enjoyed good health; but, whilst taking recreation at the sea-side, he was suddenly attacked with violent diarrhoea, which, though arrested, appeared to be the commencement of the protracted indisposition under which he ultimately sank. On his return to town, he resumed his attention to business, but found himself progressively less and less able to attend to it. His muscular strength failed; his breathing became oppressed, though no pulmonary affection or disease of the heart could be detected or suspected. Appetite failed, and by degrees there came on the most absolute aversion to food. In this case, the patient could bear the idea of eating; he would even fancy what he could take; but, when prepared with the greatest care, he always found it disagreeable and intolerable. He had been gaining flesh during the last few years of his life, and, notwithstanding his abstinence, he did not in any proportionate degree lose it during his illness. He, however, became sallow, without jaundice. The secretions were deficient in bile. The tongue was not foul; and, excepting the loss of appetite, there was no marked gastric symptom. All the varied means which the symptoms suggested, and which were diligently employed, proved alike unavailing.

The body was carefully examined. The amount of fat, both subcutaneous and abdominal, was very considerable. The viscera were to all appearance in a very fair state of health. The liver was neither enlarged nor indurated; it was not gorged with either bile or blood; nor had it the character of fatty degeneration: it was perhaps rather flabby and lacerable, but the tissues generally were rather soft. Its colour was not that of perfect health, inclining too much to brown; and I suspect that a more minute examination, chemical and microscopic, might have detected more derangement in this than in any other organ. Some mesenteric glands were much enlarged and quite petrified by the infiltration of earthy salts. Such change, however, could only be attributed to disease of much earlier date than the last illness.

CASE III. B. G., a young man about twenty years of age, and rather tall, was returning from Scotland by steamboat, when the vessel was nearly lost on the north-east coast of England, and for some hours it seemed probable that all on board would perish. The young man had not been quite well previously, yet the terror which he experienced on this occasion—for he had not actually suffered any personal exposure—seemed to be the point from which his last illness, which continued about half a year, commenced. His complexion became sallow, and, besides the feeling of being generally out of health, he had considerable palpitation of the heart. He was ordered small doses of some mercurial preparation, to be taken daily, to relieve the liver. Very quickly, and before he was again seen by his medical attendant, the gums and throat became extremely sore, and some hæmorrhage took place, but not to the extent of more than a few ounces. The great palpitation of the heart was the most prominent symptom; but with this there was extreme anæmia, without adequate hæmorrhage or inordinate evacuation of any kind, to account for it. There was little if any loss of flesh. The respiration was most easily disturbed, and food even in very small quantities could not be taken without causing oppression. Organic disease of the heart was suspected; and he was then for the first time seen by Dr. Billing and my-

self, about a month before his death. There was no irregularity in the heart's action; and, though its sounds were not quite natural, it was judged that, with the possible exception of some degree of enlargement, there was no organic disease of the organ. A considerable amount of enlargement of the liver was the only organic derangement which we could recognise. It appeared that very little bile was produced. The urine was very pale, but free from albumen. He continued citrate of iron, which had already been prescribed; and *fel bovinum* was added.

About three weeks later, when I again saw him, the anæmic state was still more remarkable. The tongue and other parts, usually coloured with red blood, had become pale. The cutaneous veins were almost imperceptible. There was rapid pulse, and active pulsation of the heart. The dyspnoea was distressing; but there were no physical signs of any derangement of the lungs. The stomach was still intolerant of food, at times rejecting it when taken even in small quantities. There was considerable thirst, yet water and wine were both oppressive. There was absence of sleep, yet anodynes gave no relief. The intellect remained clear, and the mind calm.

The body was carefully examined, but nothing morbid was discovered, except the enlargement of the liver. It descended considerably below the hypochondrium, and reached quite over to the left side. It was smooth, pale, and very exsanguine; and its acini were conspicuously enlarged. The heart was rather large, pale, and flabby; but its valves and lining membrane were quite healthy. The lungs were not emphysematous, and but slightly oedematous; but they were remarkably pale, and, even where some cadaveric congestion had taken place, the lobuli so affected were not of a deep colour. No derangement was discovered in the stomach, or in any other part of the alimentary canal.

In the last two cases the difficulty or oppression of breathing was particularly remarkable. It was not like that of bronchitis, pleurisy, or any form of asthma. There was no impediment to the mechanical part of respiration, and the blood which passed the lungs appeared to be duly carbonised. If I may so say, the dyspnoea seemed to depend on the blood not coming to the air, and not on the air not coming to the blood.

I should also like to submit the question, Whether, during the protracted state of terror in the one case, and during the attack of severe diarrhoea in the other, any influence could have been exerted either on the process by which the red particles of the blood are produced, or upon the molecular state of the tissues of the body, so as to interfere with the purposes for which the circulation of the blood is performed.

CASE IV. A gentleman of about sixty years of age, assiduously engaged in the affairs of a very large and important concern, by which, for a series of years, his mental and bodily powers were greatly taxed, with too little intermission, whilst rest and refreshment were often neglected, became, for some years before his death, the subject of indisposition. Upon his legs there was occasionally a cutaneous affection, which, though not severe, was frequently of an obstinate character. He was troubled with attacks of diarrhoea, which were checked by simple chalk mixture, to which he could not bear even the ordinary addition of cinnamon; and he was so remarkably susceptible to and intolerant of any form of medicine, that it was very difficult successfully to prescribe for any of his symptoms. For a few months before his death, his symptoms were so much aggravated as to keep him very much to the house, to which and to bed he was ultimately confined. The irritability of his bowels was often associated with a marked deficiency of bile; but, at other times, bile constituted a considerable portion of the evacuations, when it was remarkable for its orange or deep saffron coloured hue—a variety in the colour of bile which I have repeatedly noticed as apparently morbid, both in the secretions and after death, but without knowing what value to attach to it. He could take very little food, for which he had often a great repugnance, though at times he could partake of some

special articles with apparent zest. He was always thin, but during his illness he manifestly wasted until he might be said to be emaciated. He had some fixed colour of the cheek, which never quite left him, though his complexion became sallow without jaundice. For several days before death, it was quite yellow; and it was suspected that there might be visceral disease of a malignant character. Repeated careful examination could discover nothing either in the chest or abdomen, till within a few days of his death, when so much pulsation was perceptible at the epigastrium, and along the median line for some distance below it—which parts were also prominent and resistant in the otherwise sunk and retracted abdomen—that the existence of a tumour was suspected.

On inspection, the body externally exhibited nothing remarkable but emaciation and the yellow colour before mentioned, but which was rather less intense than during life. The parietes of the chest and abdomen were attenuated and comparatively dry. There was slight serous effusion in both pleuræ. The lungs were emphysematous, and free from tubercular or other deposit. The heart was rather large, dilated, and flabby. A careful examination of the abdomen could discover neither tumour, deposit, nor trace of inflammation, except a slight omental adhesion. The lumbar vertebræ pushing forward the attenuated viscera at first suggested the idea that there might be a tumour, but it was found that this appearance was occasioned merely by the size of these vertebræ, increased by minutely nodulous projections at their edges where connected with the intervertebral substances. They were exostoses, and not malignant. This appearance induced an examination of the junction of the ribs with the costal cartilages, which last were found to be hard, but not ossified, and remarkably uneven on their external surface. Some of the minute elevations appeared to be caused by well-defined circular or oval ecchymoses. The stomach was rather small; the coats thin; the mucous membrane rather dark, with neither abrasion, mammillated surface, nor preternatural congestion. The pylorus appeared perfectly healthy. The duodenum was remarkably large, strongly contrasting with the contracted pyloric portion of the stomach. It was, like the other portions of the canal, much attenuated, allowing the glands of Brunner to be very conspicuous. The other portions of the intestines, large as well as small, offered nothing remarkable, except thinness of the coats, the ready separation of the fibrous from the mucous coat, and the general deficiency of mucous secretion. No trace of ulceration, old or recent, was discovered. The liver was small and flabby, and, when cut into, had rather a clay-like or pasty consistence, and somewhat the colour of yellow ferruginous clay. A portion, reserved for examination with the microscope, exhibited an extraordinary number of very minute fat globules composing the bulk of the mass, and a deficiency of the epithelial structure. The gall-bladder was distended with thin olive-coloured bilious fluid. The pancreas was small, but otherwise natural. The spleen was soft and pale; the absorbent glands, but especially those on the bodies of the lumbar vertebræ, were extremely small, some of them being scarcely an eighth of an inch in diameter.

Dr. S., who assisted in the inspection, received a puncture on one finger, which was inflamed for some time in consequence; and on the back of my own hand, where I was not conscious of having either wound or abrasion, an itching vesicle appeared, which soon became a painful anthrax, ill disposed to suppurate, and lasting several days. This was followed by several others of smaller size in the neighbourhood, and by one on the temple. They occurred in succession, and appeared to be produced by contact of the virus, and not by the state of the system, though this was deranged in consequence. The virus from these sores had the power of infecting a second person.

Having described several fatal cases, I shall next notice one in many respects similar, but of which the termination was both satisfactory and interesting.

CASE V. T., of middle age, and engaged in business,

but in a healthy situation, and not known to have been exposed to any deleterious influence, declined in health and strength, lost appetite, and did not properly digest his food. His alvine secretions were deficient in bile. His countenance was pale, but sallow; yet by no means icteritious. The tongue was moist, but pale; and there was no evidence of much gastric disturbance. I saw him repeatedly, in conjunction with his medical attendant; but his case long resisted all the means which were proposed, and for some time I lost sight of him. At length, having occasion to meet the same medical man, I was informed that, having been induced to make trial of iodine in this case, he had found it productive of signal benefit; and he persevered with it till the patient was cured. He stated that he had pushed the influence of iodine so far, that a great and alarming absorption of the testes took place. They subsequently recovered; and it was evident that their functions were not destroyed.

I might cite several other cases, more or less resembling those I have just read; but I will not trespass on your time by doing so. Indeed, perhaps you will be inclined to say that it is not very evident what inference is designed to be drawn from them, and that they seem to be merely instances of no uncommon form of liver disease. I readily admit that such diagnosis is probably correct; yet, it is evident that they were not cases of either acute or chronic hepatitis; and whether the hepatic affection were the first or a middle link in the chain of symptoms, is not material for my present purpose, which is to consider the general state of the system which in these cases appeared to exist in concurrence with it. It is, however, extremely probable that the suspended function of the liver, like that of the kidneys in Bright's disease, is essentially concerned in bringing about a peculiar morbid state of the tissues. I remember the remarkable case of a young man, who remained for many months in the surgical wards of Guy's Hospital, presenting the characteristic cachectic paleness, who showed a remarkable indisposition to the healing of wounds in various parts of the body, and who ultimately died with extensive sloughing of the soft parts of one arm, and in whom, on inspection, the liver was found far advanced in fatty degeneration.

I strongly suspect that a general derangement or deterioration of the system existed as the essential morbid condition in those cases which the late Sir Henry Hallford described as climacteric decline; and still more so that such was the case in the class of patients to which the peculiar treatment of the late John Abernethy was particularly directed. The tedious progress of these cases, either to recovery or death, and the mode of treatment which experience sanctions as the most applicable, are to my mind very interesting, in relation to the view which I have taken of them. On the hypothesis that the tissues are in an unhealthy state, from fault in the material supplied by imperfect assimilation, or from their becoming depraved from some defect in the depurating processes, it is not surprising that they should be deficient in the power to resist or repair the influence of disease or injury; as we see in cachexia induced by Bright's disease, as well as in those of the kind which I have described this evening, whether referrible to the liver or to any other viscus, or to the influence of some deleterious agent, either generated in the body or foreign to it. In the cases of recovery, a certain amount of emaciation, which previously had not been commensurate with the deficient supply of nutrient matter, has perceptibly taken place when convalescence has really begun. The very restricted diet, on which Abernethy laid so much stress, was doubtless salutary, not less by favoring this absorption, than by the relief which it afforded to the stomach of a patient labouring under an inaptitude for food such as I have described in the foregoing examples.

The small but often repeated doses of some mild mercurial, which also formed an important part of the Abernethian treatment, are no less interesting in their probable relation to the general state of the system, and in their bearing on the considerations which I am suggesting. I do not, however, confine these observations to the *modus operandi* of

mercurials, but regard them as applicable to the whole class of medicines which are known to have the power of affecting the system, such as iodine, nitric and nitro-muriatic acids, antimony, and even mere water employed in certain modes. That these and some other articles, not commonly employed as alteratives, can thoroughly pervade the system, may unquestionably be seen in the gums, as in the case of mercury, the mineral acids, lead, and I believe manganese also; in the saliva in that of mercury, antimony, and nitro-muriatic acid; in the skin in that of nitrate of silver, sulphur, etc.; in the muscles in the case of lead; in the perspiration, milk, urine, and other secretions, in that of sulphuric and other mineral acids, and saline solutions. To each of these agents, but probably to some much more than to others, there is, I believe, a twofold action; the one, though general, yet transient and superficial, and probably like that of sugar as it is found in the urine of the diabetic; the other, profound and comparatively permanent, like that which is produced in the solids from the continuance of diabetes, by which they become prone to sphacelus, and weak or wanting in restorative power. Liebig has briefly alluded to such agents; but I do not quite understand the precise chemical changes which he supposes them to produce or modify in the process of nutrition. I am inclined to adopt an explanation which may be thought too coarse, and not sufficiently chemical and microscopic; and I confess, if it were easy to adopt any plan by which precise aids to accurate knowledge could be applied, I should be glad to see it carried out. It appears to me that the effect in question is very much like that which we may observe in the external application of these agents to an open sore. Take, for example, an ulcer in a state requiring the application of a solution of nitrate of silver or weak nitric acid wash. That which is required to be thrown off is quickly detached; and that which, though vital, is too indolent, receives an useful stimulus, and assumes the character of a healthy surface ready to heal. The improvement of a cachectic patient, who answers to the whip of an alterative medicine, opportunely applied, is not more striking than that of an ulcer thus treated; but, if the remedy be given when the patient is not in a state to be so benefited, either from the advanced stage of his disease, or from individual peculiarity rendering it altogether deleterious, we find that the evil is aggravated, as in the case of mercury given to a patient labouring under the cachexia consequent upon Bright's disease, in whom sloughing or hæmorrhage may be expected.

A prescription of the late Sir Henry Hallford's, with which more than fifteen years since I accidentally became acquainted, appeared to me to be admirably adapted for meeting those cases in which, whilst that which I have termed the superficial influence of the alterative is required to promote the depuration of the system, the deleterious effect of the more profound influence on the tissues is to be dreaded. The prescription contained small doses of blue pill, with sulphate of quinine and an anodyne—a combination which it is allowable to persevere with for a considerable time. I am not aware what were the views entertained by the prescriber himself, or of the nature of the case which he was treating; but, acting on the principle which I have just stated, I have for many years employed such a combination, and been much gratified by the effect which it seemed to produce on some very serious and unpromising cases. If it be allowable in physiology to offer an analogy to render my meaning more intelligible, it would be the following. Suppose we had a group of clear icicles (*i. e.* crystallised water) which, having become superficially dirty, we desired to exhibit in their original purity, I could devise no better plan than the following. To immerse them in water but little above the freezing point, would probably not remove the dirtied surface till the whole mass had so nearly come to the same temperature as to be ready to pass into complete solution. To obviate this, we might place the mass in a state in which it might be reduced as far as possible below the freezing point, when it might be expected to bear the very transient application of warmer water to the surface.

The deleterious influence of the protracted use of mercury, even in cases in which the effects of this medicine are really needful, will I have no doubt be readily admitted. I have been obliged to proceed on quite a different tack in a relapsing case, in which mercury, having been signally serviceable in the first attack, was found to be no less pernicious when again resorted to. I was first and most indelibly impressed with the importance of the principle (which I believe is applicable to the whole class of mineral alteratives) of which I have been speaking, when hearing the very laborious prize essay of Dr. Combe, on the effects of nitro-muriatic acid. This agent was tried internally and externally, and in various degrees of strength, and for periods of various duration. The doctor subjected himself and other healthy subjects to his experiments, besides a great number of patients labouring under a variety of diseases. The result, to which there was no exception, was this:—that, though there was a very marked improvement at the commencement of the experiments, in cases in which the influence of a general alterative was required, all the subjects, including those who at the commencement were quite well, were brought into a cachetic state, having tender gums, debility, and weakened digestion. The recollection of these facts has made me ever since uniformly unwilling to persevere with medicines of this class for any considerable time, and has induced me to suspend them, even whilst their administration was still attended with apparent benefit; yet, with the intention of reverting to them after an interval of time, and the substitution of a different agent.

I fear I may be extending these observations beyond the limits of a paper suited to an evening meeting, and I will endeavour briefly to conclude; yet there are points which I would not altogether omit.

It was stated at the commencement of this paper, that there were numerous cachexiæ; and that such is the case we can scarcely question, when we consider how many different principles may be constituted by the combination of different proportions of the elements of which our bodies are composed—that out of them are formed as many distinct animal poisons as there are different specific diseases distinguishable from each other—and how slight is the chemical difference between a wholesome alimentary substance and an intensely virulent poison.

The few illustrative examples which I have adduced, are chiefly such as we may suppose to be mainly produced by the lesion of the depurating process performed by the kidneys, or by that of the liver, in conjunction with the derangement of its function in the formation of bile. May not analogous effects be produced by disturbance of the functions of the pancreas, of the spleen, of the skin, and of the uterus? It would not be difficult to produce probable examples of each. In support of this view, I may state the opinion of a physician and pathologist whose ideas I always regard with respect. It is the belief of Dr. Foville, that some forms of mental alienation are dependent on a morbid condition of the body generally, rather than on organic lesion of the brain. Some forms of cachexia are manifestly attributable to the vitiated alimentary substances supplied to the system for its growth or repair. In my former communication, I mentioned one instance in the production of ergotism from the use of diseased rye. Liebig mentions a most remarkable—I might say marvellous—example in the fatal effects of decomposed German sausages. Scorbutus at sea, pellagra in the north of Italy, and some other endemic diseases, may arise from similar causes. The vitiated atmosphere of badly constructed and crowded cities, and of marshy districts, will also be recognised as productive of cachetic conditions of the system.

I need not attempt a further enumeration of examples; but I cannot pass over one peculiar and remarkable instance of a general state, though it is rather to be regarded as physiological than morbid. I allude to the state of the female during menstruation. Though recognised as a subject of popular belief, I am not aware of its being noticed as regards the particular characteristic of which I am about to speak, in any work of medicine or physiology. It is stated

as the result of repeated experience, that meat which has been handled by a female in this state undergoes rapid and peculiar decomposition, and that the antiseptic power of salt is effectually superseded by this influence.

The importance of the subject of this paper will scarcely be disputed, since the greatest adept at diagnosis—that is to say, in pointing out the precise locality of organic disease—may fail in the treatment of his patient, if he have not also duly estimated the state of system at the time, and recognised such a condition as I have here termed a cachexia which may be associated with it; and the able prescriber of experienced practical tact, who may perceive it and know how it is to be combated, may succeed in the cure of his patient, though he may overlook some latent organic mischief under which the patient may also be labouring. It should of course be our desire and aim to discover and appreciate both of these conditions, and properly to deal with each.

More than thirty years ago, I wrote an inaugural thesis on absorption. It was remarked that I took too chemical a view of the operations of the living system; but, since that time, the laborious researches of those who have so greatly advanced the science of chemistry, have placed in the clearest light that of which I had merely a glimpse in the obscure distance.

I concluded that thesis by saying: “De hydrargyri et aliorum quorundam medicaminum in absorbendi functione effectibus et agendi rationibus conjecturas meas proponere in aliud tempus differam.”

I then looked forward with juvenile hope to the time when I might in hospital practice have the opportunity of carrying out the researches which I projected; but these anticipations have not been realised; and I now unexpectedly find myself, after the lapse of so many years, performing, though very imperfectly, a promise which I had almost forgotten.

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CLINICAL NOTES ON CHOLERA.

By W. LAUDER LINDSAY, M.D., late Resident Physician of the Surgeon Square Cholera Hospital, Edinburgh.

[Continued from page 900.]

CHOLERA IN THE INSANE.

It appears to me that a brief consideration of cholera as it occurs in lunatic asylums is of considerable interest, on account of the peculiar and anomalous type of this disease in the insane. The peculiarities which frequently present themselves in the natural history of cholera in the insane are chiefly the following:—

I. The extreme difficulty in the differential diagnosis between cases of cholera marked by mild collapse and cases of dysentery or dysenteric diarrhœa with mucoid stools, especially in debilitated subjects, when they occur in the same building, and at or about the same time with cholera cases.

II. The extreme suddenness of the invasion of the disease in many cases. In several asylums, patients are reported to have been instantaneously seized while walking, in their usual health, in the airing courts or grounds. It has also been a frequent occurrence in the history of cholera in asylums to find, in the morning, when the dormitory or bedroom doors are thrown open to enable the inmates to make their toilette, persons in advanced or hopeless stages of cholera, who on the previous evening had gone to bed in good health.

III. The absence in many, perhaps the majority of, cases of all prodromata, or of particular kinds or degrees thereof, e.g., premonitory diarrhœa. In many cases, the absence of all premonitory symptoms can only be presumed; in others, which have been under careful observation prior to and during the attack, it is fully ascertained. Collapse has frequently been described to be the earliest, and sometimes