quantity of mucus ; but when they are debilitated by struma, age, or accident, they secrete enormous quantities, not of *mucus*, but of *pus*, and no one can demonstrate that the latter is only a dilution of the former.

But there is yet another point, of great practical importance, bearing on this subject. There is scarcely any disease attended with more intense debility than diphtheria ; yet it is characterised by an immensely congested condition of the throat, etc. ; and a very abundant *dense* secretion from the mucous membrane, and, *under the influence of strong general and local stimulation, the secretion is thinned in consistence and reduced in amount.*

The bearing of this upon the common "cynanche trachealis" must be at once apparent, and it ought to be a question how far the density of the secretion of false membrane in that disease may not have frequently been promoted and increased by the state of debility into which the patient is too often reduced by antiphlogistic treatment. I can only say that after a diligent hunt after cases, I have found that those in which death has taken place under twenty-four hours, and where the formation of false membrane has been most dense and abundant, have been those where the patients have been copiously bled at the outset, and where the vitality is consequently very low.

We cannot refer the false membrane formed in diphtheria, or the reduction in density and quality which follows in that disease, from the use of local and general stimulants, to any physical agency whatever. Consequently, we must reject the notion that excessive secretion, with debility, has chiefly a physical cause.

But there is still another way in which Mr. Spender's explanation must be examined ; viz., the influence the doctrine would have on practice. If excessive perspiration in phthisis be simply the exudation of an unusual quantity of the aqueous part of the blood, and a physical process into which vitality enters little, it ought not to weaken the patient so long as he is able to supply the blood with the water which has been drained away. If infantile diarrhoea be nothing more than a copious loss of fluid from weakened blood-vessels, it might be easily compensated for by an abundant use of aqueous drinks. And if, in diabetes insipidus, the only thing to be noticed is that "the haste with which the water filters through the Malpighian tufts leaves scarcely any time for it to be impregnated with the contents of the epithelial cells that line the uriniferous tubes," there will be no difficulty in keeping the patient "up to the mark" by making him drink as much water as he expends.

We know that such physical ideas are unprofitable in the main to the living man.

Mr. Spender, however, guards himself by saying that what he calls *passive* secretion is *almost entirely* a physical act. These two words, to a great extent, show that our ideas are not directly opposed. As a matter of philology, I object to an *act* being spoken of as *passive*. As a matter of fact, I believe that all living matter comes under the laws of inorganic force, in direct proportion to the diminution of organic power. In that we agree.

My wish is to show that there is a condition of the body intermediate between perfect health and absolute death, which has not yet been sufficiently studied. The living body has certain powers and tendencies, which we speak of as organic or vital. The dead body has certain others, which we know as physical and inorganic. Of the mutual reaction of these opposing forces, when the former is weakened, we really know little.

Circumstances have induced me lately to investigate them as closely as I can. The results attained are of extreme interest. I will not enter into them, however ; but sum up the question before us in the words of one of the most original thinkers of the day, Mr. Lewes. "What is the organic process on which this excess of secretion (in debility) depends? Vitality is only a general phrase. I cannot help thinking that the old idea is correct which says that increased secretion results from an increased activity of the secreting organ, increased *special* power, though caused, perhaps, by an organic disturbance which is coincident with diminished *general* power. The latter point being brought to light, the attention should be directed to the *modus operandi*."

I doubt myself whether we can consider that "increased special power" can be present in an organ secreting over abundantly, when such secretion is diminished by *local* stimulants as much as by general ones ; but the problem is so fairly put that I will leave it as it is, feeling sure that if it be worked out fairly, it will eventuate in a vast improvement, both in pathology and practice.

Clinical Lecture

ON

ASTHENIC PNEUMONIA,

DELIVERED TO

THE STUDENTS OF THE BIRMINGHAM
GENERAL HOSPITAL.

By J. RUSSELL, M.D., one of the Physicians to the Hospital,
and Lecturer on Pathology at Sydenham College.

GENTLEMEN,—There are at present in the Hospital two cases of acute rheumatism, which we have watched with considerable interest, on account of their presenting the serious complication of pneumonia of a low type affecting both lungs. From whatever circumstances it arises, it is an unquestionable fact, that the low forms of pneumonia are far more common—in towns, at least—than those of a more sthenic character. Asthenic pneumonia, or typhoid pneumonia, as it is often called, by an unfortunate misapplication of terms, is a disease of by no means infrequent occurrence, often presenting itself as a complication of some preexisting disease, sometimes existing as a simple primary affection ; under either condition, it possesses some peculiar features which merit your especial attention ; and which I propose to make the subject of the present lecture.

The descriptions of disease which are given in systematic treatises and lectures are generally derived from certain typical forms, and it is necessary that this should be so ; but in applying the knowledge you have thus gained to clinical observation, you will be perpetually reminded that the proportion of cases which realise, in all respects, the descriptions you have read, is very small indeed ; and you must be prepared to encounter many and wide deviations from the model form which has been placed before you. Such is eminently the case with inflammation of the lungs. Perhaps no malady is attended with less uncertainty in its diagnosis than a genuine case of simple sthenic pneumonia : on the contrary, there are few more insidious than the same disease in its asthenic form. Where asthenic pneumonia exists as a secondary affection, it is not infrequently so entirely destitute of special symptoms that its presence may be entirely overlooked ; and were it not for our knowledge of the circumstances under which its occurrence may be expected, our attention might never be directed to the chest. In each of the cases at present under our consideration, there was no reason whatever to suspect the existence of the disease prior to the physical examination of the lungs. In feeble or unhealthy subjects, again, pneumonia, although it be the sole or primary affection, is often deprived of some of its most characteristic signs.

When pneumonia occurs as a secondary affection, it is spoken of as *intercurrent*. It is a more or less frequent complication of many diseases, which are produced by the presence of a poison in the blood ; thus it is met with in the course of typhus fever, in erysipelas and surgical fever, in scarlatina, measles, and influenza, in remittent and yellow fever, and, as we have also found, in acute rheumatism. It appears not improbable that it may sometimes exist as the direct consequence of a morbid poison where no other indications are afforded of the presence of that poison in the blood, just as in every epidemic of scarlet fever we find isolated cases in which the characteristic affection of the throat is the only symptom of the disease which is present. Thus, whilst erysipelas is prevailing in the wards of a hospital, and the subjects of wounds or of operations are liable to be seized with that malady, instances every now and then occur of patients similarly circumstanced suffering from asthenic pneumonia, which we have every reason to refer to the poison of erysipelas, although the usual cutaneous inflammation be absent.

But the disease is also met with where we have no reason to suspect the existence of any specific poison in the blood ; it may occur after exposure to cold, or to the operation of any ordinary cause of simple inflammation, in enfeebled individuals who have been exhausted by overwork, by anxiety, or by other depressing agencies, or who have lowered their health by intemperance, or by unhealthy habits of life. Such appear to be instances of ordinary inflammation, occurring in a debilitated constitution, which imparts to them their asthenic type. Yet,

in many of these cases the early development of delirium, or of diarrhoea, or, as I have seen more than once, of jaundice, together with a manifest and alarming tendency to sinking, affords reason for the suspicion that some poison has either preexisted in the blood, or has been produced by the exciting cause of the disease; and this suspicion is strengthened by the observation, that in such cases the urgency of the symptoms bears no proportion to the extent of the inflammation; thus, I have seen these serious symptoms present, and hasten rapidly to a fatal termination, where the inflammation has been limited to one lung, and absent when it involved the entire lower lobe of both lungs.

Now, where pneumonia is present under any of the circumstances I have indicated, the signs of its existence may be obscure; the energies of the constitution may be so deeply depressed by the injurious influences under which they have been labouring, that the power of reaction is prostrated, and the indications of the disease are proportionally deficient. It is surprising what an amount of inflammation may be inflicted upon the body under certain circumstances, without its appearing sensible of its presence. This want of reaction will generally bear a proportion to the depressing nature of the poison, or of any other cause which has been previously in operation; thus, the poison of measles does not generally exert any very lowering influence upon the system, and the signs of pneumonia, when it occurs, are sufficiently indicative. On the other hand, with the extreme prostration which attends the presence of the typhus poison, the greatest vigilance is necessary to render ourselves aware of the occurrence of the inflammation. Such differences arise, not from any diversity in the inflammation itself, but in the circumstances under which it takes place.

Nor is pneumonia singular in this respect; other inflammations, occurring under the like conditions, may be equally insidious. In puerperal fever, *e.g.*, we not infrequently meet with instances in which inflammations of other solid organs, of the serous membranes, or of the joints, even runs on to supuration, without its presence having been ascertained until it has been revealed by a *post mortem* examination.

In the two cases which form the subject of the present remarks, the inflammation affected both lungs. This is consistent with the usual operation of poisons, and warns us, when we encounter the disease on one side only, to keep our attention alive to the condition of the opposite side.

I will now briefly compare the ordinary symptoms of pneumonia with those which are presented by the form now under our consideration. Even in the sthenic form, considerable allowance must be made for variation of symptoms in particular cases; but where the pneumonia has assumed an asthenic character, deviations from the normal type are much wider and more numerous.

The Inflammatory Fever. In cases where a specific poison exists in the blood, the inflammatory fever is, of course, merged in the peculiar fever which attends the operation of such poison, and is of a low type. Where no specific poison is present, the inflammation may set in with a rigor, and sometimes with sharp feverish reaction; but the symptoms speedily assume an asthenic character, and may be attended, even at an early stage, by delirium and other serious symptoms; and the patient may manifest a marked tendency to sink. In all these particulars, however, there is great variety. In a case of uncomplicated pneumonia, which I saw the other day, the pulse sank below one hundred after the third day. In another similar case, in which both lungs were involved, the intellect was clear, and the pulse was below one hundred after the third day; whilst in two others, in each of which only a single lung was affected, the pulse was rapid; there was low delirium, and in one, retching, diarrhoea, and floccitation; and death occurred in both, at an early period, with every symptom of exhaustion.

Pain in the Side may be absent, even in ordinary pneumonia; it is more frequently so in the asthenic form; or, if present at first, may speedily sink into a very subordinate position. In some cases, the pain occupies a situation more or less remote from the seat of disease. Such deviation is by no means peculiar to the asthenic variety; but it becomes of greater importance in that form, on account of the absence of other indications, and the consequent danger of misleading the observer. In one case the pain was seated in the upper and anterior region of the chest, the lower lobe being affected; in another it occupied the region of the left hip; and so free from urgency were the other symptoms, that the patient had actually weathered the first stage when I saw him, and had come down stairs. His hurried breathing, with his cough, directed my attention to his chest, and I found the entire lower lobe of the lung con-

solidated. Pain in the flank, or iliac region, is sometimes an attendant of inflammation, probably of the base of the lung. In one remarkable instance, I believe the pain was seated in the pillars of the diaphragm, as it was chiefly occasioned by hiccough, which followed the presence of food in the stomach, and was so intense on any attempt to move the trunk, that it was next to impossible to examine the posterior region of the chest.

Cough and Expectoration are subject to much variation; the cough is not infrequently slight. In one of our hospital patients we should hardly have paid attention to it, although there was no dulness of sensibility, and his intellect was perfectly acute. On the other hand, it may be remarkably violent; I have seen it almost spasmodic. It is important to know that expectoration is often scanty, and may be entirely absent. It was trifling in quantity in both of our patients. It was entirely absent in three cases which I call to mind, although in one of them, which was examined after death, the inflammation had affected both lungs. When present, the sputum is often composed of semitransparent mucus, of considerable adhesiveness; but without the peculiar gelatinous tenacity and the rusty colour of the expectorated matters in the sthenic disease.

The Respiration presents, perhaps, the most unvarying physiological symptom. There may be little or no complaint of oppression; but, excepting in instances of great prostration, the breathing is much increased in frequency. This symptom will often be very evident by comparison with the pulse; whilst the latter may vary in the number of its beats day by day, the breathing continues steadily frequent, thirty-six, forty, or more respirations being performed in a minute.

The reason is evident. The amount of space available for the purposes of breathing being lessened, compensation is made by increase in the frequency with which the air is transmitted through the lungs. In asthenic pleurisy, also, this symptom is present. Cases of this disease, which sometimes present themselves in the out patient's room, in which the patient makes no complaint of the chest, often first arouse our suspicion by the unhealthy frequency of the breathing. I need hardly refer you, however, to one of our cases as obscuring even this symptom. In the girl in ward sixteen, frequent and irregular breathing was sufficiently accounted for by rheumatic affection of the intercostal muscles; and you may have noticed her distress on more than one occasion, when, on awaking from sleep, her irritable muscles were suddenly required to assume a state of greater activity.

In the obscurity which attends the general symptoms of asthenic pneumonia, our great dependance must be placed upon our knowledge of the circumstances under which the disease is most liable to occur; and it very fortunately happens that when our attention has been directed to the state of the chest, the clear indications which are afforded by the *physical signs* at once deprive the case of all uncertainty. One physical sign, however, usually present in the acute form of the disease, I have found absent in some cases. I allude to crepitation; bronchial breathing being the first abnormal sound I have discovered. It is possible that, from the obscurity of the general symptoms, the first stage of the disease may have passed before the examination has been made; but this explanation certainly does not apply to every case, and the scanty amount of the expectoration sometimes observed, affords corroborative evidence in favour of the statement I have just made. Sometimes the signs of consolidation are preceded by crepitation in the small bronchial tubes, the pneumonia occurring as a sequel of capillary bronchitis. From the absence of crepitation, especially when coinciding with deficient expectoration, it is possible to mistake the case for one of pleurisy. The diagnosis, however, is easily effected; for, besides that vocal vibrations are present, with abnormal intensity, on the affected side, the peculiar limit of the dulness forms a distinctive sign of great certainty, when the inflammation is seated in the lower lobe. The lower lobe of the lung occupies the entire posterior region of each side of the chest, excepting only the suprapinnous fossa. The lateral and anterior regions correspond with the upper lobe on the left, with the upper and middle lobes on the right; consequently, in the cases I am now speaking of, whilst the chest is dull behind, even to the spine of the scapula, in the lateral space and in front—as was the case with both our patients—it is clear; the line of demarcation approaching a vertical direction—a direction of course impossible with free fluid in the chest. The only form of pleurisy which could afford a similar sign is that in which the fluid effusion is limited by adhesions.

You may, perhaps, expect me to assign the absence of the chlorides from the urine as an additional diagnostic sign of the

presence of pneumonia; but since attention has been drawn to this subject by the observations of Dr. Beale and others, the symptom in question has been found to be by no means peculiar to inflammation of the lungs; but to be present in other forms of acute disease.

Asthenic pneumonia, like all low forms of disease, is more liable to irregularity in the manner of its occurrence than the sthenic form. It may present itself in the upper lobes of the lung, or in the central parts. In a case the other day, the patient, who had been depressed by severe anxiety and worry, was attacked with fever, pain in the chest, and rapid breathing (from thirty to forty); but no physical signs presented themselves, excepting some prolonged expiration in the lower lobe of the lung for five or six days, when the usual signs of consolidation were manifested, preceded for one day by crepitation and rhonchus. It is probable that in this case the inflammatory action commenced in the centre of the lung.

In forming your prognosis, there are two elements for your consideration; the inflammation, and the condition of system with which it is associated. Now of these two, the latter is by far the more important. Pneumonia, though a sufficiently serious disease, has, if uncomplicated, a strong tendency to recovery; but this tendency may be overcome by the noxious influence of a poison in the blood, or by a state of constitution in which the powers of the body have been prostrated by debilitating influences. Hence your judgment will be regulated rather by those symptoms which relate to the state of the patient's general health, than by those which indicate the extent of the inflammation. The same circumstances will influence the progress of recovery. A state of cachexia will not only retard this process, but may even turn it into a very unfavourable direction. It promotes degeneration rather than repair, and hence may create a tendency to suppuration or gangrene. We had a striking illustration of the truth of what I have said in the hospital the other day. (BRITISH MEDICAL JOURNAL, May 7th.)

There is one awful accident which sometimes happens in this disease, of which it is very necessary that you should be aware—the occurrence of sudden death by fainting. I have twice seen this unhappy termination to the low form of pneumonia; and once to acute bronchitis occurring with miliary tubercles, and with the heart in an early stage of fatty degeneration. Two of the three patients had suffered from much anxiety, and from overwork; of the third I have no information in this particular. I have also been told by a friend, of a case of subacute pleurisy, in which death took place in the same manner. One of my patients died as she was in a semirecumbent posture, arranging her hair. Another literally passed from sleep to death, and was found in the attitude of quiet repose.

The subject of treatment would afford matter for an entire lecture. I shall content myself with simply indicating the principles by which you must be guided. I have already stated that pneumonia, when uncomplicated, has a natural tendency to recovery. The danger, therefore, arises more from the circumstances which attend it, than from the inflammation itself; and such circumstances must receive a considerable share of attention in the treatment. Not that I would lead you to disregard the inflammation; I only desire to place the other elements of the case in their proper position. The more accurate physiological knowledge we now possess, has defined with greater precision the position held by the blood-vessels in the process of nutrition, and has taught us that changes in the circulation of one organ, must be explained by alterations in the nutritive condition of the organ affected, or of the system at large. We no longer regard inflammation as an entity of itself; but as one of a series of changes in the nutritive process; and these other changes often demand a still larger share of our attention. Impure states of the blood, depraved conditions of nutrition, the presence of tubercle or of cancerous deposits, often assume greater importance in our estimation than the local inflammation they may provoke.

Now in the disease in question, the concurrent circumstances indicate either that the cause itself of the inflammation seriously depresses the nutritive powers, or that it is allied with some other agency which tends to produce the same effect; and we have to do our best to prevent the favourable tendency of the inflammation from being overborne. On this account, sedatives, especially tartar emetic, which are of much use in sthenic pneumonia, are often quite inadmissible; and in favourable cases, can only be employed in the early stage, and in moderate doses.

Blisters, on the other hand, which are of questionable

utility in the early stage of the sthenic form, are of much service. A few leeches also may afford much relief to the pain. Mercury has the high sanction of Dr. Watson. I would, however, venture to suggest that it is apt to be attended with the inconvenience of producing troublesome diarrhoea; and I have seen recovery imperilled by its occurrence.

In consequence of the tendency to depression which is so frequently prominent in these cases, stimulants will very often constitute most important remedies. Their quantity must be suited to the requirements of the particular case. In a case to which I have already referred, the patient did well with only a few doses of ammonia. Here, a stronger stimulant would have been unnecessary, and therefore injurious. On the other hand, in the pneumonia of typhus, or of erysipelas, or in the uncomplicated form, where delirium appears, with a rapid pulse, and other signs of prostration, wine and brandy must be given with a free hand. Between these extremes there will be every gradation. The object of stimulants is to keep up the energy of the circulation; and their employment must be regulated by the state of that function. On the other hand, wine and spirits do not contain nitrogen, and therefore cannot be appropriated by the tissues as food; they are no doubt entirely eliminated. It will, therefore, be desirable not to load the blood with an unnecessary quantity of excremental matter, especially when so important an emunctory for carbonaceous matter as the lungs, is diseased.

With these precautions, stimulants must hold a very high place among the remedies for asthenic pneumonia, especially as it presents itself among our town populations.

Opium, which so frequently accompanies stimulants in the treatment of disease, often proves a very valuable remedy. Regard must, however, be had to the tendency of the particular case. Some morbid poisons are narcotic in their action, and tend to produce stupor. This is sometimes the case with the typhus poison, for example; when such a tendency is observed, the employment of opium, at all times dangerous, would be doubly so with the respiratory surface seriously lessened. It is when the symptoms of asthenia exist without this complication, that this medicine lends its invaluable aid.

I need not say that due attention must be paid to the state of the secretions, and particularly to the alvine evacuations; and that while you secure the necessary relief to the action of the bowels, you must avoid weakening your patient by the undue administration of purgatives, particularly those of the more powerful class. Support, by light, nutritious diet, is of great importance. By the judicious administration of beef tea, in small quantities, at short intervals, you may, in mild cases, even avert the necessity for stimulants, or at least for those of the stronger kind.

Transactions of Branches.

MIDLAND BRANCH.

ON RETENTION OF URINE: PUNCTURE OF BLADDER, AND PERINEAL SECTION.

By THOMAS PAGET, Esq., Leicester.

[Read June 23rd, 1859.]

THE paper of Mr. Norman, read before the Bath and Bristol Branch, April 21st, 1859, and published in the JOURNAL of the 4th of the present month, contains a case in which, relief having been obtained by puncturing the bladder above the pubes, the cannular track cicatrized, and an opening was thus left through which a female catheter was habitually introduced for micturition. "No urine escaped except when the catheter was passed, nor did a drop ever pass through the urethra." In this course, the patient, an old man, held on smoothly for two or three years.

Having, in my notes, three cases bearing upon Mr. Norman's, one of which too involves a much longer period of observation, and proportionably confirms his suggestion of a new treatment for urethral obstruction. I have thought them worth recital before the Association. They bear also, I think, importantly upon the question of perineal section.

The first is that of Mr. N., who has raised himself from the ranks by application, quick insight, and entire reliability of character, to a position of considerable command in the glove trade of this place. (Leicester). From early life he has suffered much from stricture, which resisted the varied efforts of