over the roughened surfaces of its cavities to be explained away upon such an assumption as this? Dr. Halford may ignore the muscular bruit, and declare the impulse of the heart's apex against the thoracic walls a creature of the imagination; but I am sure that he will not persuade many stethoscopic observers to agree with him herein.

Dr. Halford's, as well as Dr. Billing's views, are surely in this matter too exclusive. No one can doubt that the valves have a most important share in the formation of the heart's sounds; but certainly Dr. Halford's experiments do not prove that no other causes may contribute to their formation; most assuredly, they do not disprove the possibility of the existence of a sound from the impulse, of a sound from the muscular contractions of the heart, and of a sound from the rush of blood through the heart.

It must be admitted, that we have gained a great deal of knowledge concerning the sounds of the heart from observation of their alterations in diseased conditions of the organ; and we may, I think, safely assume from a fair consideration of the same class of facts, that much obscurity still involves the question of the nature and origin of the sounds. The pathologist at the bedside of the patient is continually meeting with facts which seem repugnant to his received theories, and even to what seem to be demonstrated facts. I will here mention one, because it seems to show in a very striking manner the great difficulty which hangs over the subject.

It is generally admitted by observers, that the second sound depends altogether upon the falling together, during the heart's diastole, of the semilunar valves of the aorta and pulmonary artery; this is a fact, which would appear to be placed almost beyond the reach of discussion, being readily demonstrable and decisively so. Notwithstanding, however, the demonstrations of physiological experiments, pathology steps in to throw doubts upon their correctness. How comes it, for instance, that in certain cases of mitral valvular disease, very frequently to be met with, no second sound at all is heard at the apex and about the left side of the heart? A loud *bruit* is heard accompanying the first sound at the apex, but no second sound or *bruit* is audible there. How comes this, when at the same time the second sound is heard loud and clear over the situation of the aortic valves; and loudly intensified, it may be, over the base of the pulmonary artery? Why is the second sound, as usually heard over the apex of the heart, not heard now, if its cause is always to be sought in the semilunar valves? What should prevent the sound being conveyed downwards to the apex during the heart's diastole in this case, as well as during health? I certainly cannot see.

How, again, are we to account, on Dr. Halford's theory, for the reduplicated beat so often heard over the ventricles during their contraction? How also are we to explain the fact, of the second sound being occasionally loud and clear over the ventricles, when at the same time it is very weak and almost inaudible at the base of the heart, if we are in every case to attribute its formation entirely to the closure of the semilunar valves?

Pathological and physiological considerations thus justify us in believing that the causes of the heart's sounds are complex, not simple; that they are produced by no single act, but that several acts are associated in their formation; and that in fact, there is much truth in the assertion made by Skoda, viz., that the ventricles, the aorta, and the pulmonary artery, severally contribute in the production both of the first and of the second sounds of the heart.

CLINICAL OBSERVATIONS ON THE SPECIAL APPLICATION OF LIQUOR PEP SINÆ IN CERTAIN DISEASES.

By DAVID NELSON, M.D. Edin., formerly Physician to the Queen's Hospital, and Professor of Clinical Medicine, Birmingham.

SINCE my last remarks upon this subject, I am glad to observe, from the discussions called forth, and the attention paid to the preparation of the medicine by chemists, that it is now taking that hold upon the professional mind which its value deserves. In papers previously published, I have adverted to the successful treatment of certain cases of diabetes several years ago by means of this remedy, and also to its general value as a natural solvent of the food within debilitated stomachs. In regard to diabetes, I have now about a dozen patients in whom there has occurred a complete arrest of that usually deadly malady; but I do not intend at present to treat of that parti-

cular disease, or to enter upon any theoretical discussion thereon, but to lay before my brethren of the BRITISH MEDICAL ASSOCIATION some evidences of the special value of this agent in chronic complaints, and in those forms of disease which are viewed as malignant, or which are of so obstinately destructive a kind that their ultimate results are quite as bad. I would wish it to be understood at the outset, that, in citing such evidence, I have no intention of making perfect reports of the cases, in their rise, progress, treatment, and termination; but mean simply to mention such salient features of the ailments as may tend to illustrate the beneficial action of pepsine in arresting or retarding their advance.

I would also premise, that the form of the agent employed has been that of the *liquor pepsinæ preparatus*, or *medicinal rennet*, as made in Birmingham, the ordinary dose of which is one fluid drachm. I shall also endeavour to classify the cases so as to exhibit its effects methodically, beginning with those of a milder character, and proceeding to others of a more formidable or fatal tendency. With this view, I shall illustrate its effects, *seriatim*, upon patients labouring under simple chronic dyspepsia; upon others labouring under dyspepsia associated with affections of the heart, lungs, uterus, or brain; upon some with abdominal tumours; upon some with ulceration of the stomach; upon others with malignant disease of the liver or stomach; upon others of a tuberculous habit, but especially young children with *tabes mesenterica*; upon one with diabetes, recently treated with success, but not included in any former report; and on another with albuminuria.

A. SIMPLE CHRONIC DYSPEPSIA.

CASE I. Mr. G. G., of Staffordshire, was a farmer, advanced in life, and had suffered for many years from indigestion; otherwise, as regarded all his vital functions, he seemed perfectly sound. His circulation and respiration were good, his complexion was ruddy, and he was strong and active in all his limbs; but he never ate a meal, however simple, without suffering from distension, severe pain, protracted eructations of flatus, and sometimes vomiting. I had formerly prescribed for him vegetable bitters, with alkalies, bismuth, and hydrocyanic acid, with only limited and temporary benefit; but, on taking the three latter medicines with the liquor pepsinæ, an immediate and continued favourable change was reported. Afterwards, he took the peptic liquor only, with a little alkali; and, as he expressed it, he "ceased to know he had a stomach."

CASE II. Mrs. S. C., of Walsall, corpulent and unwieldy, 45 years of age, had been troubled with indigestion for years past. She never had pain; but her bowels were irregular in their action, and she had constant eructations day and night. She was muscular, but her muscle was imbedded in fat; and the abdomen was immensely large, pendulous, and tympanitic. She had used ordinary remedies without much change, and had never restricted her diet, as she had a good inclination for food, and regularly ate four full meals a day. On using the liquor pepsinæ with an alkali, and taking two aloes and assafoetida pills at night, instead of supper, her uncomfortable feelings left her, and, with continuing the occasional use of the medicine, and the avoidance of pastry and beer, and the adoption of a meat and bread and wine diet, she has ceased to complain.

CASE III. Mrs. A. C., of Staffordshire, was a lady of tall and firm frame. She consulted me for an obstinate attack of rheumatism, which had specially seized on the tendons of the neck, so as to induce stiffness and great anguish on moving the head or arms. On inquiring into her general health (the state of the stomach included), she said that, eat what she might, for some time past, the food not only lay heavy, but turned sour, and produced at least once a day, and very often in the night, a violent and protracted attack of spasm. She added, that hot water and mustard plasters, with brandy, ether, opium, and chloroform, had all been used, with only transient benefit; and therefore concluded that she must put up with it for life. A soothing and absorbent liniment was prescribed; and she took fifteen grains of bicarbonate of soda, ten grains of bismuth, fifteen drops of wine of colchicum, one drachm of liquor of pepsine, and twelve drops of solution of muriate of morphia in water, three times a day, after meals. Her rheumatism subsided entirely in from two to three weeks, all the fibrous swelling having left her neck; and, from the time that she took the first dose of her mixture, she had no spasm of the stomach. She sent her cook, a few weeks ago, to me, requesting the favour of my attending to her for sundry anomalous symptoms, which disappeared after the expulsion of a large round worm eight inches long; and, on my asking how her mistress was, she

said, "Quite well, sir: we are never now roused up at night for hot water and so on."

D. DYSPEPSIA ASSOCIATED WITH AFFECTIONS OF THE HEART, LUNGS, UTERUS, OR BRAIN.

CASE I. Mrs. F., a lady of 36, first consulted me at the acme of an attack of hepatic congestion, with its consequences. The head was hot, and ached severely; the appetite was gone; the tongue was covered with a thick fur; the bowels were constipated; and the urine was thick with lithates. She was more than usually short of breath, owing to an asthmatic tightness. There were tenderness and fulness in the region of the liver; the heart paused from time to time; there was a rough murmur in the course of the pulmonary artery; and the legs were swelled. Although some fear of tubercle had been expressed both here and in London, the fulness of the abdomen, along with the breadth and shortness of the chest, and other signs, dispelled that idea from my mind; and I rather inferred that all the train of symptoms were primarily traceable to flaccidity of the heart and obstruction at the pulmonary vessels. The first treatment consisted in the application of leeches to the right side, and the exhibition of purgatives, along with antispasmodic diaphoretics and ammonia. Under these appliances, the gastro-hepatic symptoms disappeared, and the respiration became easier: still the pulse was faint and intermittent, and the *bruit* continued; and she could not move into the cold, or go up stairs, or dress or undress, or partake of such food and drinks as her debility required, without bringing on heartburn, with asthmatic wheezing, faintness, and violent palpitation. Quinine and steel were now ordered with the food, and alkalis pepsine after it, as well as powerful antispasmodic stimulants, as an extra support when required by the urgency of the distress. After a short period, the pulse became more regular, and the asthma left; she was able to drive and walk about with ease; the legs regained their natural tapering form; she could eat beef, and take a glass or two of port wine at dinner, without heartburn or palpitation; the action of the heart became steady and strong; and, in short, she was well, except for the medical perception of what existed in the pulmonary artery, threatening, of course, a return of all the old evils, whenever the directions as to diet, etc., might be neglected. Her brother had been found dead in bed, and the *post mortem* examination had revealed some heart disorder in his case.

CASE II. Mrs. S. D., a married woman, 40 years old, had been afflicted with asthma for many years, always much aggravated under attacks of cold, to which she was exposed in her occupation of shopkeeper. It was associated, as usual, with habitual dyspepsia. Her diet was irregular, and often improperly cooked, frequently consisting of hashes, for the sake of convenience. She consulted me for an acute attack of bronchitis. There was extreme dullness on percussion over the whole chest; the respiration was labouring and very sibilant; and the secretion of tenacious mucus, which could not be cast off except by vomiting, was immense. There was dull pain in the region of the liver, and great tenderness at the epigastrium, the slightest touch of which induced cough and increase of the dyspnoea. She was first treated with emetics and purgatives, conjoined with soothing and antispasmodic diaphoretics; and, when the chest and stomach, etc., had thus been relieved of their loads, she commenced the pepsine after food, which of course was ordered to be simple. Since then she has been very much less troubled with her asthma, which was wont to be a regular nightly visitor, and a torment for weeks together when she caught cold, or when anything disagreed with the stomach. When an attack threatens, an emetic, with a short course of liquor pepsinæ and diaphoretics, now cut it short.

CASE III. Mr. G. D., a firework maker, and exposed to fumes of sulphur, etc., consulted me in an extremity of distress, arising from extensive bronchitis and asthma. He was considered as going fast in phthisis; but, although he was thin and pale to an extreme degree, with a shrunken chest, dyspnoea, and hæmoptysis, I was not disposed to adopt that opinion, on account of the slowness of the pulse and the duration of the disease. His respirations, under the slightest exertion, were then 60 in the minute. Percussion over the chest proved general dullness; and all pulmonary sounds, whether sibilant, snoring, chirping, creaking, crackling, or gurgling, could be heard in one or other part of the chest, the respiration being also highly cervical and abdominal. I considered that repeated attacks of bronchitis had thickened the mucous membrane universally, caused the proper tissue of the lungs to shrink, induced adhesions, and brought on both organic and spasmodic

asthma, with consequent retention of morbid mucus. There was neither appetite for much food, nor power of digesting the little taken. He described himself as alternately ready to faint and sink from a sense of suffocation. He was ordered first an emetic, which was followed up by antispasmodic and stimulant diaphoretics; and the pepsine was administered after meals. The chest was also blistered. Under a course of this treatment, he gradually recovered to the extent of reducing his respirations to 24; but, from the first, he said that the medicine after food had done him much good by relieving him of those dreadful attacks of asthmatic dyspnoea which had formerly invariably ensued upon meals, and which made him afraid to eat even while he felt inclined. He continues pale, thin, and weakly; but the chest-sounds are merely universally rough, and he can work and walk about with tolerable ease. He takes the pepsine liquor with his food, and lobelia at bedtime when required.

CASE IV. Miss J. S., of Worcestershire, 48 years of age, unmarried, and exposed to no privation, having a cottage of her own and a small independency, consulted me in regard to habitual indigestion of some two or three years standing. It was accompanied with violent attacks of pain, sometimes in her stomach, and sometimes in the lower part of her abdomen. The latter spasms radiated from a point just behind and under the pubes, and extended to the sacrum, down the thighs, and up to the umbilicus. She reported that she had previously seen consulting practitioners, who, after treatment, had usually come to the final conclusion that the symptoms were hysterical; but, hysterical or not, they had not left her. She was ruddy in complexion, and not excitable, but of good sense and calm demeanour; and, finding nothing organic to lay hold of at first, I suspected a worm, and prescribed accordingly. No worm appeared, and the symptoms continued as before. A digital examination of the uterus was then made, when the os was found to be exceedingly tender, and somewhat puffy and flaccid. She said that, for some time past, menstruation had been very painful, and that griping pains had continued in that quarter even after the flux had stopped. She was ordered a mixture containing liquor pepsinæ and bismuth, with muriate of morphia for her stomach and other pains; and leeches to the vulva. This treatment gave relief to the digestion, and for a time abated the uterine pains; but, as they recurred in force as before, a specular examination was made, which resulted in the detection of a small protruding polypus, brilliant in colour, narrow, and about a half-inch in length. A skilful surgeon, who afterwards examined, stated his inability to remove it, on account of the rigidity of the parts, the smallness and softness of the growth, and the depth and narrowness of the passage. In a short time, however, it was freely treated with nitrate of silver, on sundry occasions; and, although there seemed no change at first, it ultimately disappeared, with a complete relief to all the local pains. The stomach does continue weak, and she lately remarked, "I feel so well that it almost seems foolish to be taking medicine; but as soon as I stop this for the stomach, I begin to have pain and flatulence as before."

CASE V. Mrs. J. M., a married woman, aged about 35, and without family, consulted me for a swelling and severe pains in her abdomen. She said that all her food disagreed with her, and so added to the ordinary distension of the belly that the agony was almost insupportable, and she could scarcely breathe. She had previously taken pills, which relieved the pain by making her stupid and drowsy; but they bound her bowels; and, when they did not produce sleep at night, she was haunted with horrible visions. On examination, it was clearly a case of immense ovarian disease, the tumour occupying nearly the entire abdomen. The pressure of this gave rise to the disturbed digestion, flatus accumulated, and so came the paroxysms of pain and distension. She was ordered to evacuate the bowels daily by means of a warm decoction of poppy in full quantity. She took a stomachic mixture containing the liquor pepsinæ; and, instead of any opium, had muriate of morphia at night when she did not sleep. This led to a subsidence of the paroxysmal attacks. The solid tumour, of course, remains as before; but she is able to work at a lathe, and feels nothing beyond the sense of weight and oppression, and an occasional lancinating pain through the tumour.

CASES VI AND VII. M. H. and J. H., brother and sister, were brought to me from Walsall, both labouring under epileptic fits of very frequent occurrence. The girl was 16 years of age, of ruddy dark complexion, short and round in her make, and her upper and lower extremities fully developed, and remarkably solid and firm. The lad, aged 12, was quite of the same robust organisation. The heart and lungs of both were sound; the

intellects clear; the abdominal organs vigorous; and, in fact, the only thing the mother could see was, that they were of a very "consumptive nature" as regarded food, which, however, seemed to make them sleep heavily, yet restlessly; and they also had the fits. They both confess to always feeling "blown out" after their meals. In case of any worms, they were first ordered a succession of calomel and aloes purges, followed up by the exhibition of male fern. This latter agent expelled no worm; but, on the other hand, fits occurred shortly after its being taken. On the next visit, purgative pills were prescribed at night, with quinine, zinc, and silver, thrice a day; and the liquor pepsinæ after each meal. Of course these meals were ordered to be reduced and made simple. From that time, through a period of between two and three months, no "blowing out", nor night restlessness, nor epileptic fit, took place. They continue well, and are instances of epileptic convulsions occurring in robust bodies from over-charging of the stomach, in which cases all that is wanted is restoration of digestive power.

CASE VIII. Mr. T. J., aged about 70, and who had once before had an attack of apoplexy, had ventured upon an excursion into the country, with two or three of his sons. He was in good health and spirits in the morning, and, before departure, partook of a hearty breakfast of meat and eggs. He enjoyed himself, and felt well appetised after reaching the place of destination by horse-carriage, and dined almost voraciously, and without much chewing, as he was defective in his teeth. He also enjoyed the return home, felt again hungry, and had some roast veal. Before going to bed, he began to feel sensible of the weight at his stomach; but no alarm arose. In the course of the night, his wife remarked that his snoring was remarkably loud and deep, and, on endeavouring to rouse him, she could not succeed. Her experience of the former attack excited her fears. The family were summoned, and first a surgeon, and afterwards myself, were requested to attend. The poor old gentleman was quite insensible, and his eyes fixed. The pulse was slow and full, and the only thing that excited a groan was pressure of the epigastrium. The first appearance and the history of the case reminded me much of that of the late Duke of Wellington—stupefaction supervening upon a heavy meal in an aged subject. Leeches were ordered to his head, and powerful injections by the bowels; while it struck me that the liquor pepsinæ might aid the favourable issue by dissolving any crude food, an emetic not being justifiable, under the impression of cerebral congestion, in so old a man. The leech-bites bled freely; and, while the injections were acting, vomiting also spontaneously occurred, and he ejected from the stomach an immense quantity of solid material, including vegetable fibre, and especially masses of hard gristle belonging to the veal. He was now able for a few times to be got out of bed, but afterwards relapsed into stupor, from which he only partially emerged to move his right hand over his right eye, and groan deeply; while his left arm was paralysed, and his mouth drawn to one side. He was now blistered over the forehead, put under a course of mercury and iodide of potassium, and went on with liquor pepsinæ and spoon-food. His first exhibition of improved consciousness consisted in a desperate warfare of the right hand against the blister; and his first essay in the use of the tongue was in answering "yes" to every possible question. He next observed objects fixedly, but without recognising them. One of his earliest blundering attempts resulted in his calling his wife "the old clock"; and, on another occasion, after attentively studying the face of my watch, he first said "twelve"; then, carrying his finger on to the 1, and 2, and so midway to the 3, he exclaimed, "Twopence halfpenny to 12 o'clock;" and seemed exhausted with the effort. From this condition, however, he gradually and slowly recovered, with the loss of vision in one eye, and some impairment of memory. On my meeting him lately, he lifted his hat and repeated my name. He can walk the streets by himself, and, with care, remains in good health. Though liquor pepsinæ can have no power over the essential nature of apoplexy, yet I believe life may often be saved by its solution of crude food, and maintenance of a sound digestion, while more active means are being carried out.

[To be continued.]

MEDICAL SOCIETY OF LONDON. On this (Saturday) evening, a paper will be read by H. Hancock, Esq., "On a Case of Excision of the Floor of the Acetabulum and Head of the Thigh-bone, where Carious Perforation existed with Pelvic Abscess."

Association Intelligence.

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
BATH AND BRISTOL. [Ordinary Meeting.]	White Lion, Bristol.	Thurs., Feb. 19, 8 p.m.
METROP. COUNTIES. [Adjourned Meeting.]	37, Soho Square, London.	Tues., March 3, 4 p.m.

ADMISSION OF NEW MEMBERS.

THE LAWS of the BRITISH MEDICAL ASSOCIATION, with regard to the admission of new members, are the following:—

Any qualified medical practitioner, not disqualified by any bye-law, who shall be recommended as eligible by any three members, shall be admitted a member at any time by the Committee of Council, or by the Council of any Branch.

The subscription to the Association shall be One Guinea annually; and each member on paying his subscription shall be entitled to receive the publications of the Association of the current year. The subscription shall date from the 1st January in each year.

The names of new members should be forwarded to the Secretary, Dr. P. H. WILLIAMS, Worcester; or to any of the Secretaries of the Branches.

British Medical Journal.

SATURDAY, FEBRUARY 14TH, 1857.

THE NEW COUNTERBLAST TO TOBACCO.

THERE is a class of persons who employ themselves with all the energy of despair in raising some cry of alarm, and making everybody about them unnecessarily uncomfortable. They parade their bugaboo with a desperation which ensures a temporary public attention, and, as soon as this dies out, they start another of a still more attractive appearance. The vegetarians would reduce mankind to live upon sky-blue and an apple, or at best an egg; the Maine Law liquor men would legislate all spirituous and malt liquors off the face of the earth; and now we are to have an anti-tobacco-smoking agitation, which is to end in the entire demolition of the "Stygian weed". It is quite clear that this restless class of individuals will not "let a body be", and we may think ourselves lucky if hereafter we are not reduced by them to have our diet regulated by act of Parliament. The anti-tobacco-smoking agitation is the last issue of the not very unpleasant brood, and we believe we are indebted to Mr. John Lizars, of Edinburgh, for the hatching, rearing, and sending it forth in a little pamphlet, termed *Practical Observations on the Use and Abuse of Tobacco*, which has already gone through six editions. Upon taking up this publication the other day, we were certainly not a little surprised at some of the statements therein contained, which are calculated, we must confess, to shake the nerves of all smokers already enervated by the abuse of tobacco. The art of making an immediate and startling impression has, however, its drawbacks. Accuracy of detail and sequential reasoning must be sacrificed to a breadth and startlingness of effect. When the urchin sets up his turnip-ghost in the churchyard, he cares little for the Phidian accuracy of its countenance, so long as its goggle eyes at once prostrate Tommy as he comes round the corner.